BauchModel_8

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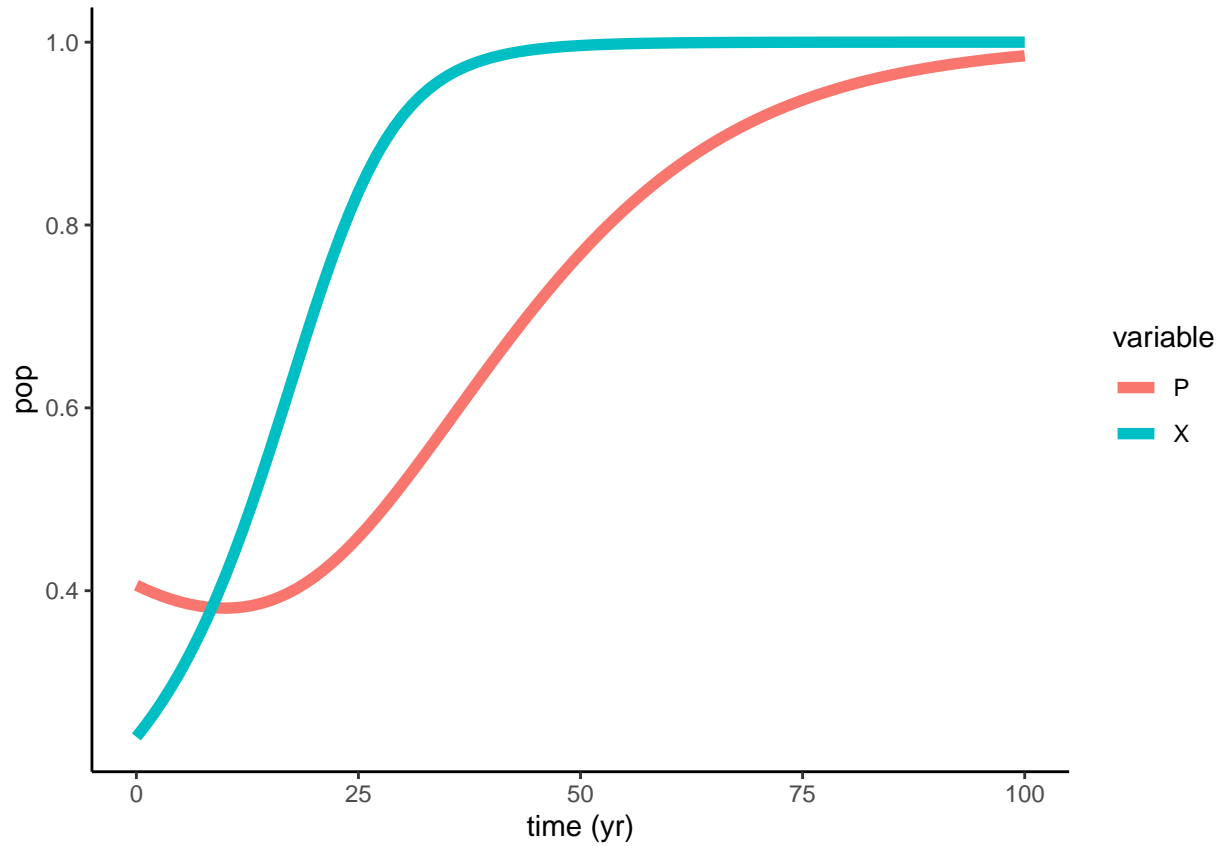

Figure 1: Original Bauch Model

See derivation in notes but this is the new equations (still unsure about interaction terms):

$\frac{dP_1}{dt} = r_1 P_1 (1 - P_1) - \frac{h_1 * P_1 (1 - X_1)}{P_1 + s_1} - e_1 P_1 + i_1 P_2$

$\frac{dP_2}{dt} = r_2 P_2 (1 - P_2) - \frac{h_2 * P_2 (1 - X_2)}{P_2 + s_2} - e_2 P_2 + i_2 P_1$

$\frac{dX_1}{dt} = k_1 X_1 (1 - X_1)[\frac{1}{P_1 + c_1} - w_1 + d_1(2X_1 - 1)] + prop_1 X_1 (2X_2 - 1) + prop_1(1 - X_1)(2X_2 - 1)$

$\frac{dX_2}{dt} = k_2 x_2 (1 - X_2)[\frac{1}{P_2 + c_2} - w_2 + d_2(2X_2 - 1)] + prop_2 X_2 (2X_1 - 1) + prop_2(1 - X_2)(2X_1 - 1)$
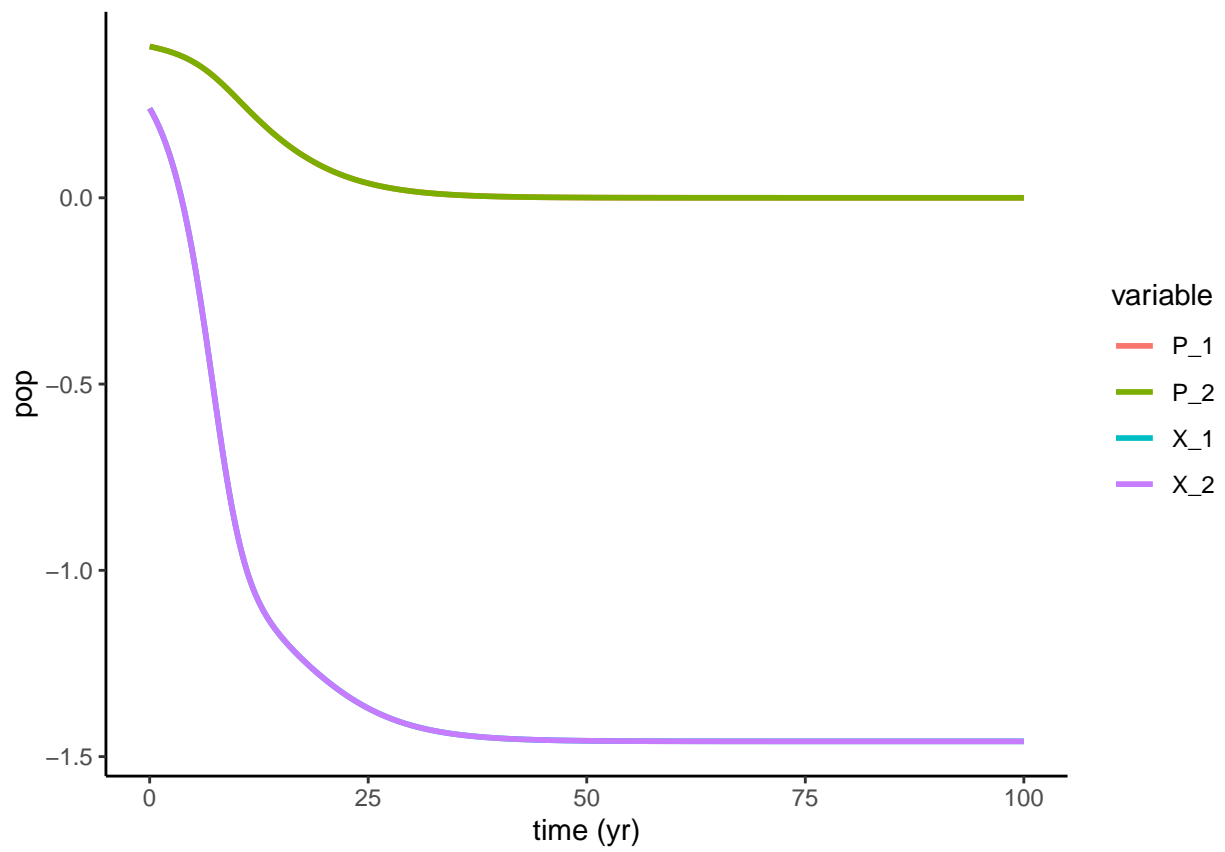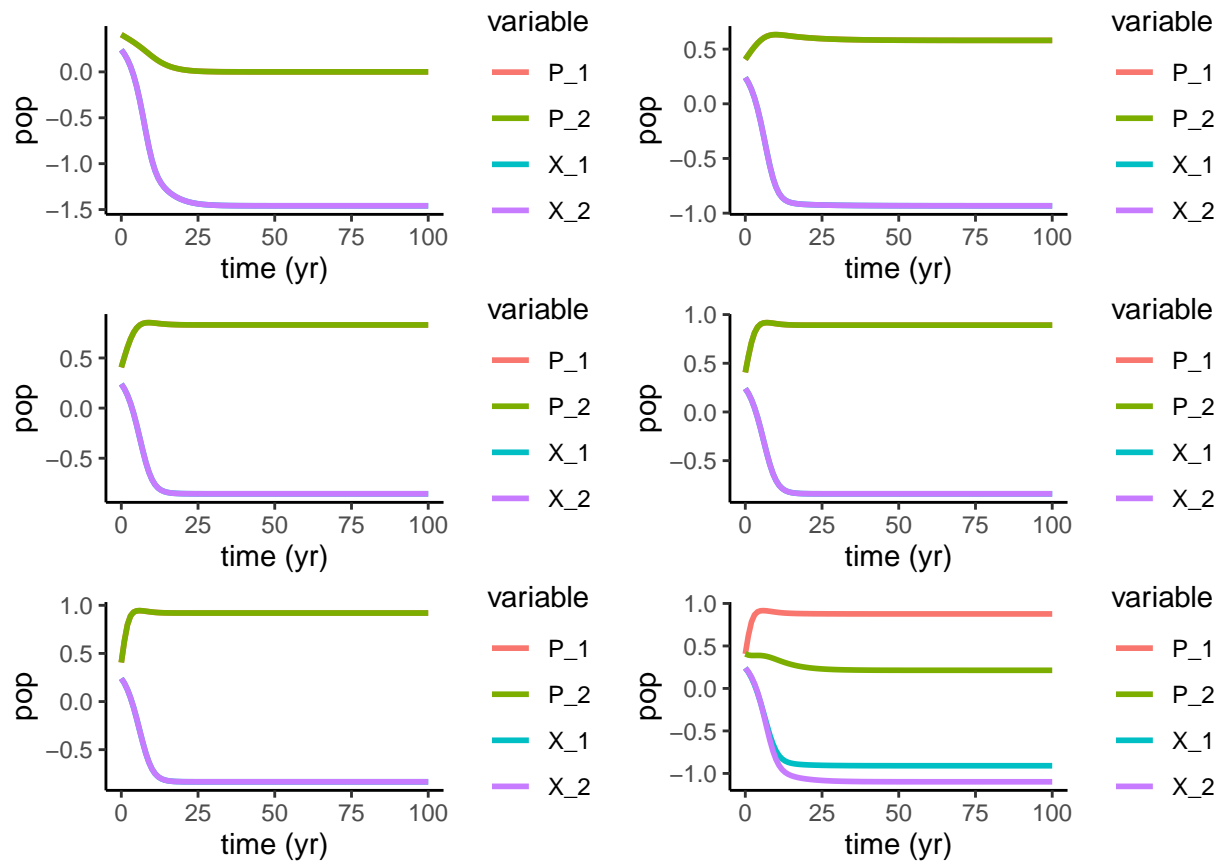
Figure 2: New Model with default paramters

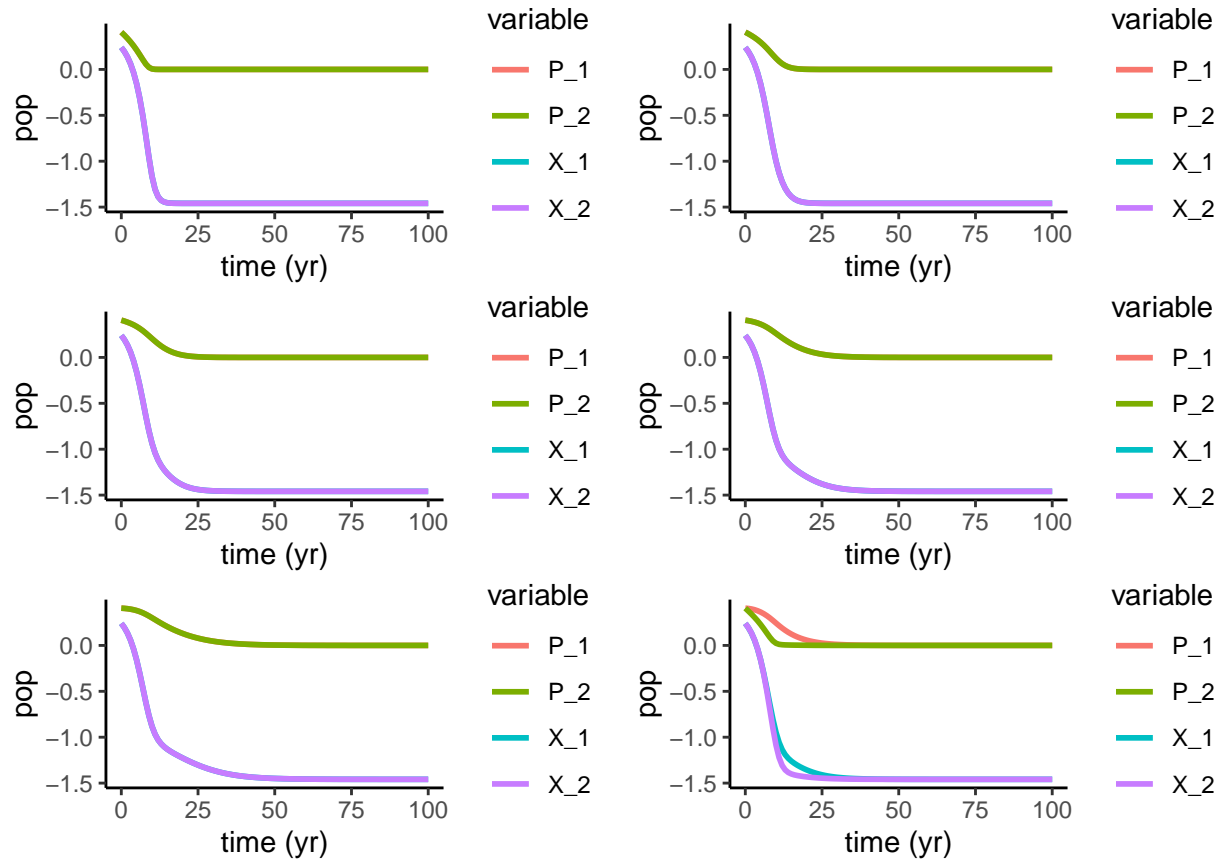Figure 3: R - Net growth/fecundity, range 0 to 1

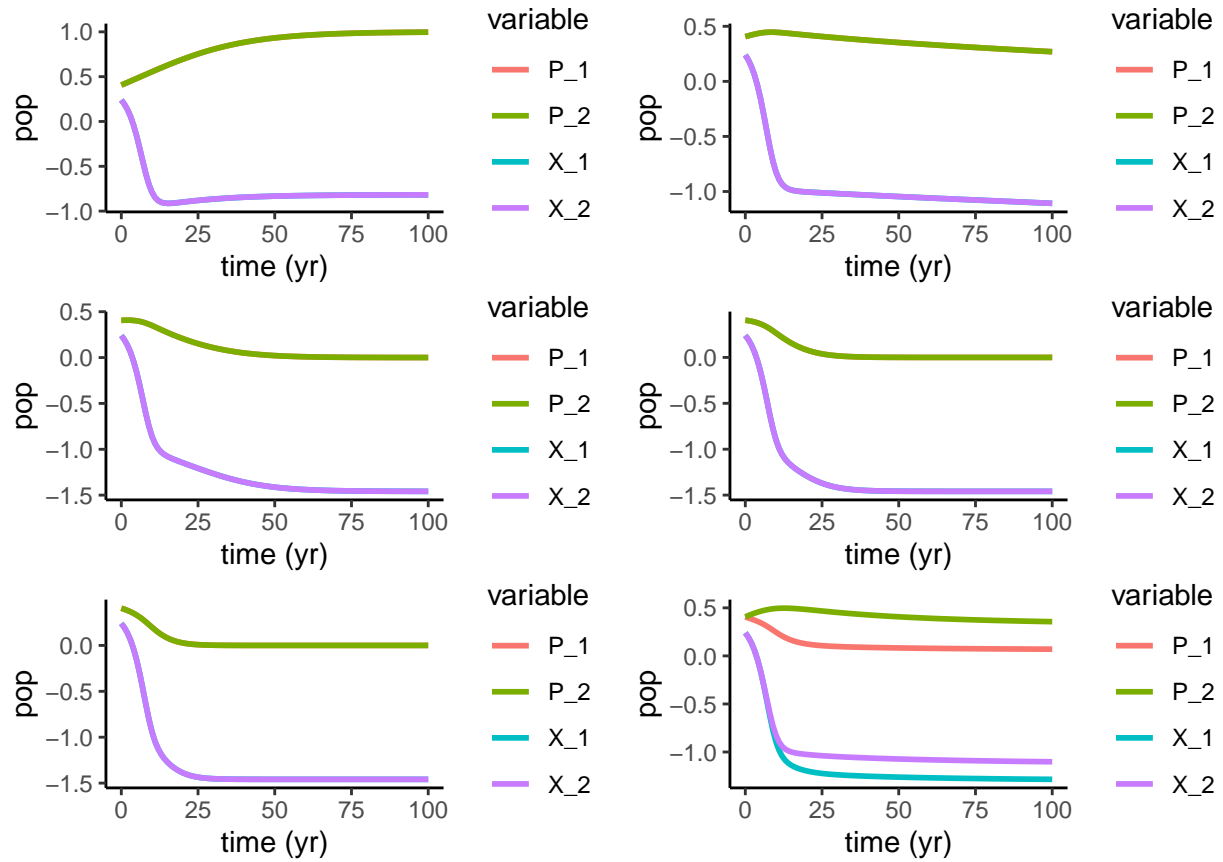Figure 4: S - supply and demand, range 0.1 to 1

Figure 5: h - Harvesting efficiency, range 0 to 0.1. Note, default is .075
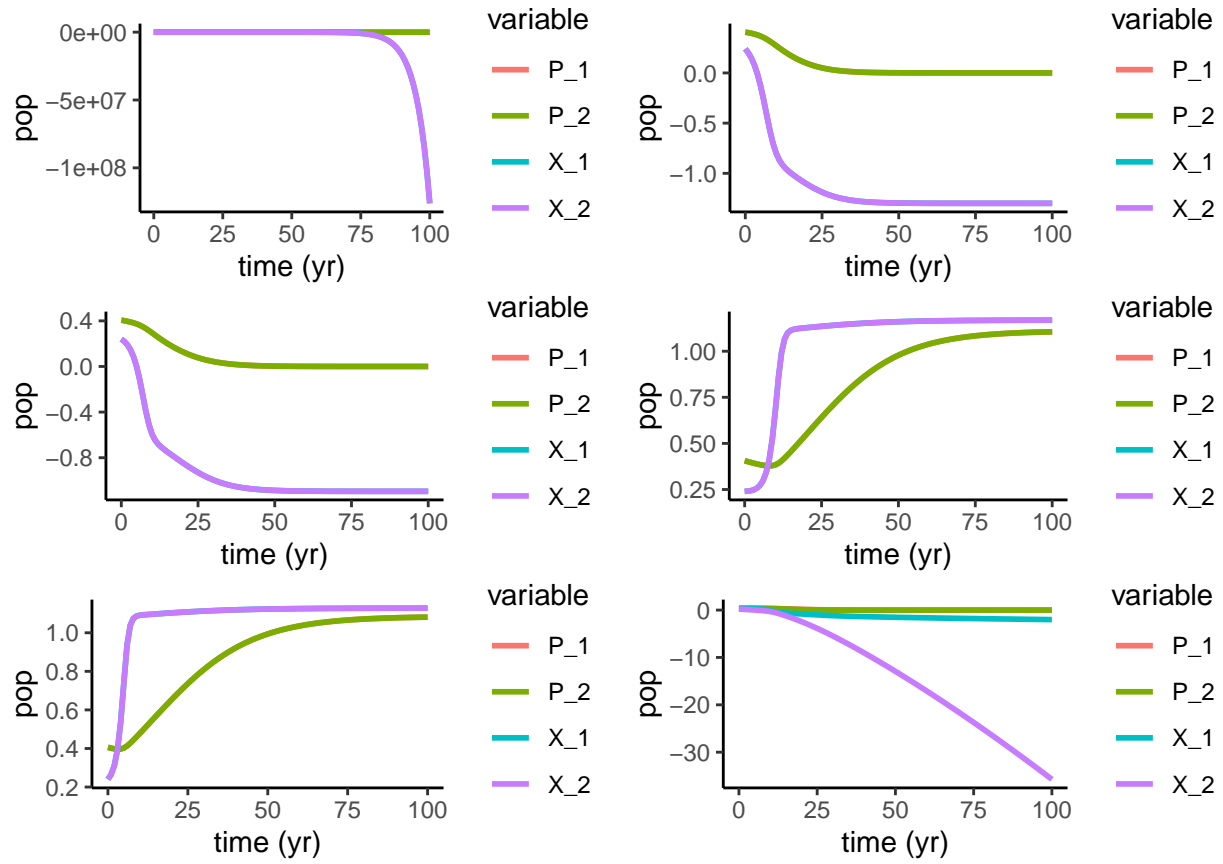
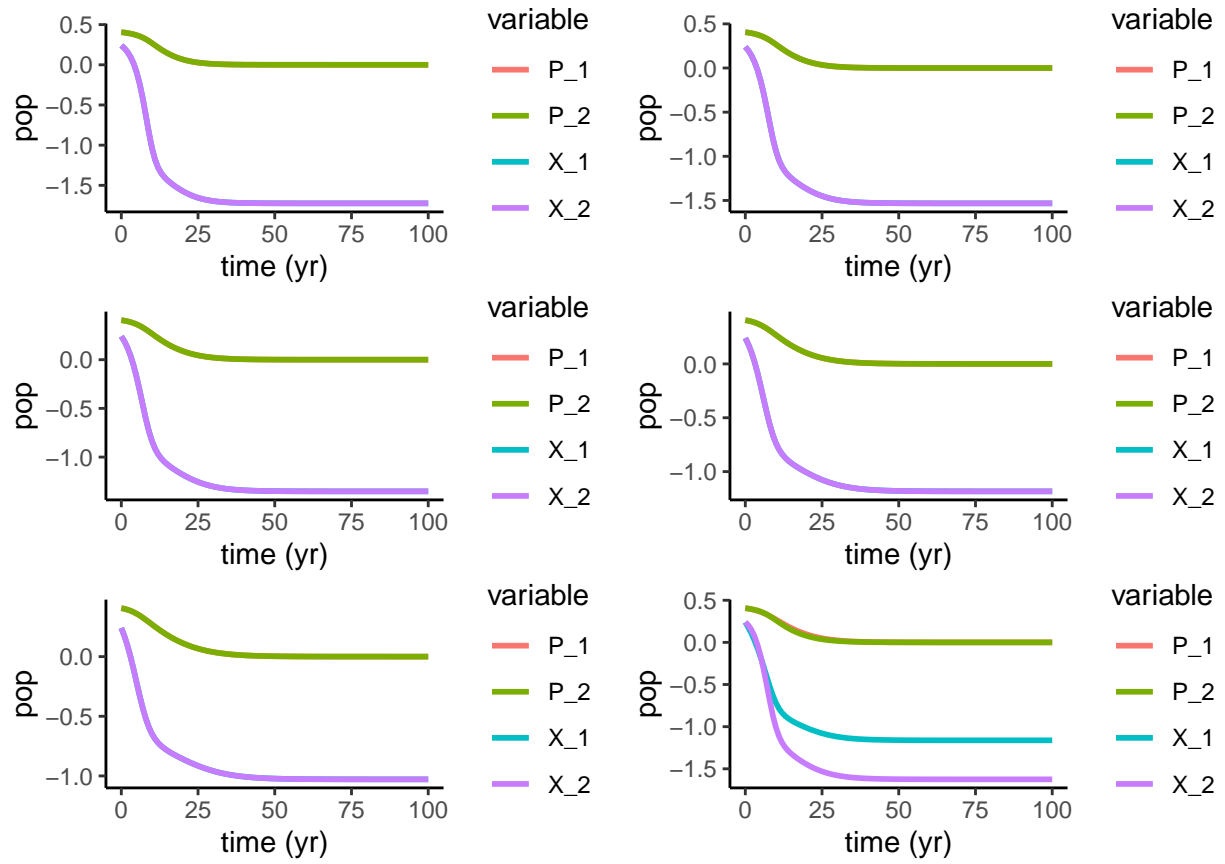Figure 6: K - Social learning rate 0 to 1

Figure 7: w - conservation costs

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 8.49329e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 8.49329e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 7.93288e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 7.93288e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 7.40946e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 7.40946e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 6.92057e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 6.92057e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 6.46393e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.5434, R2 = 6.46393e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##         corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 14.5434, R2 = 4.32797e-40
##
```
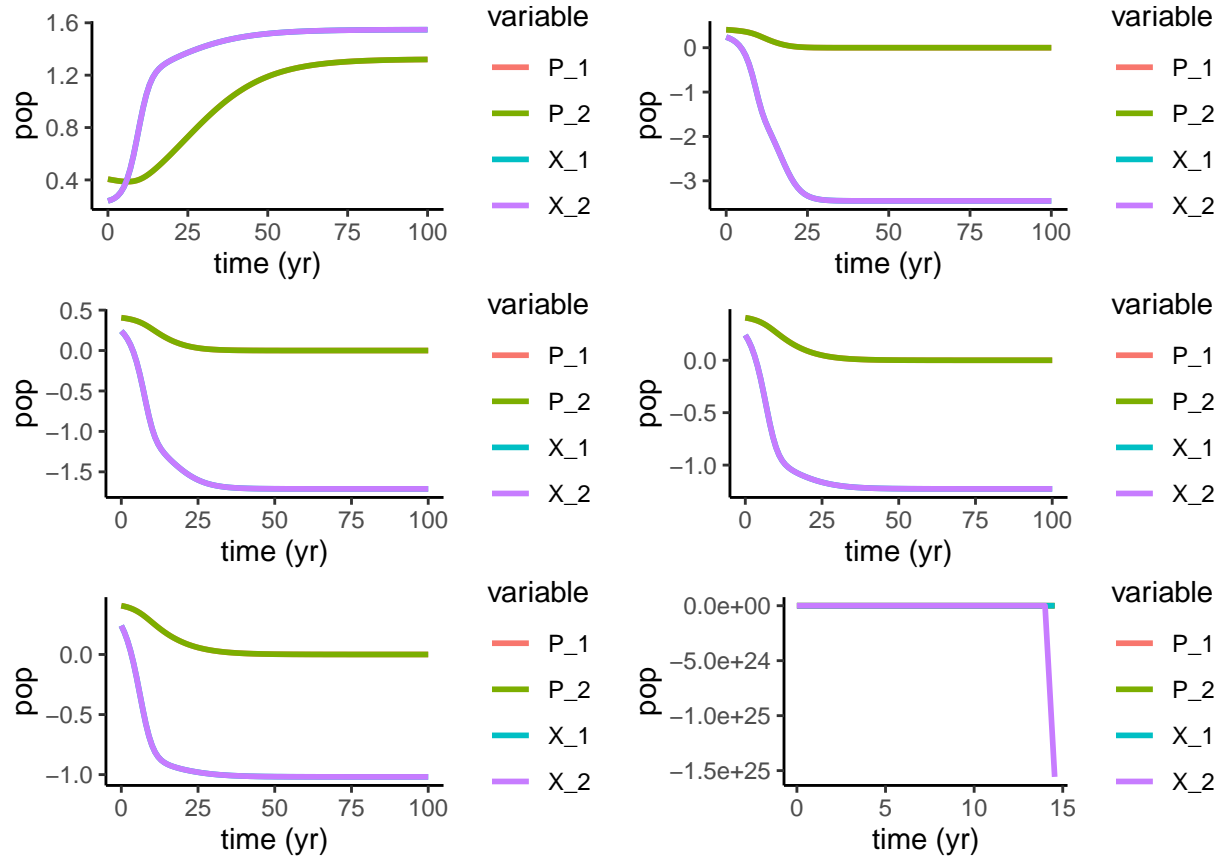

Figure 8: c - rarity valuation param

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 8.59216e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 8.59216e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 8.59216e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 7.03168e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 7.03168e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 7.03168e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 5.75462e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 5.75462e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9225, R2 = 5.75462e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.9225, R2 = 4.70949e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.9225
##
```
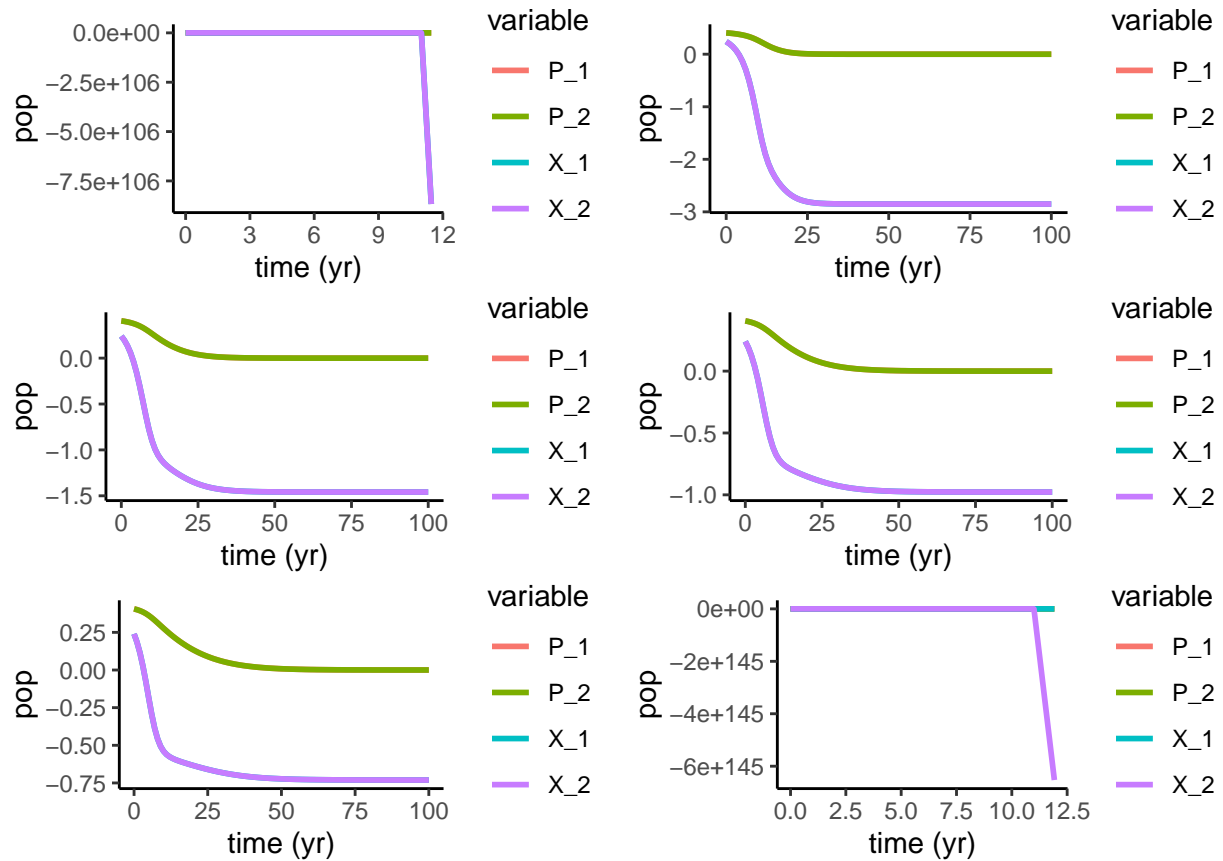

Figure 9: d - social norm strength
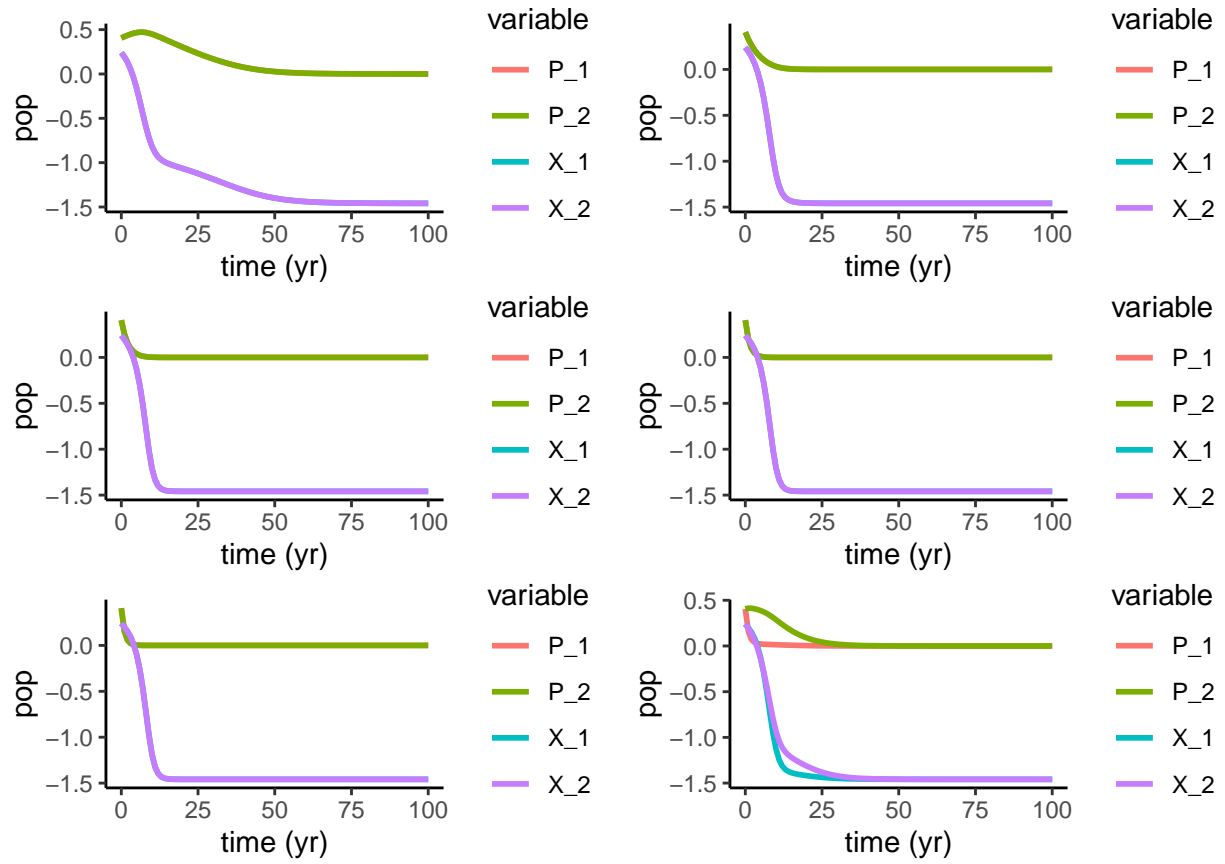
Figure 10: e - fish emigration
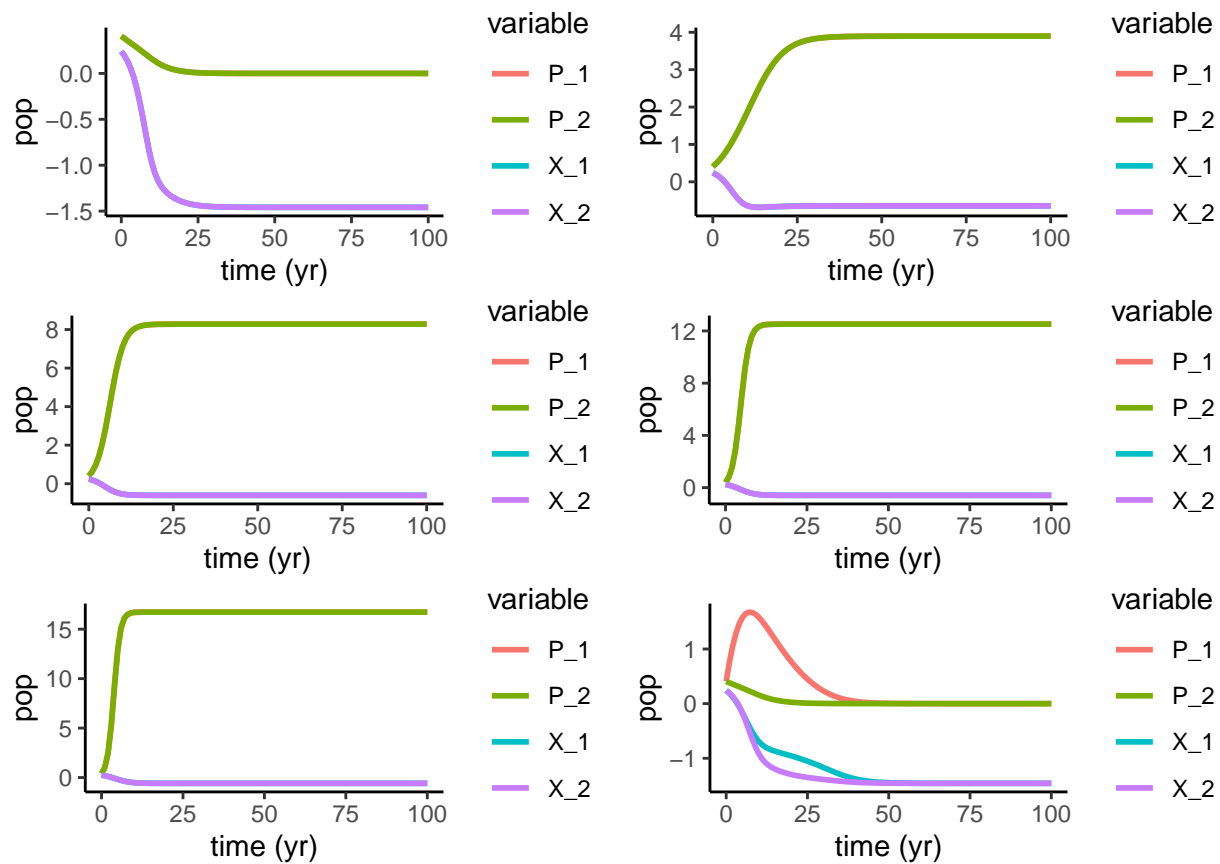
Figure 11: i - fish immigration
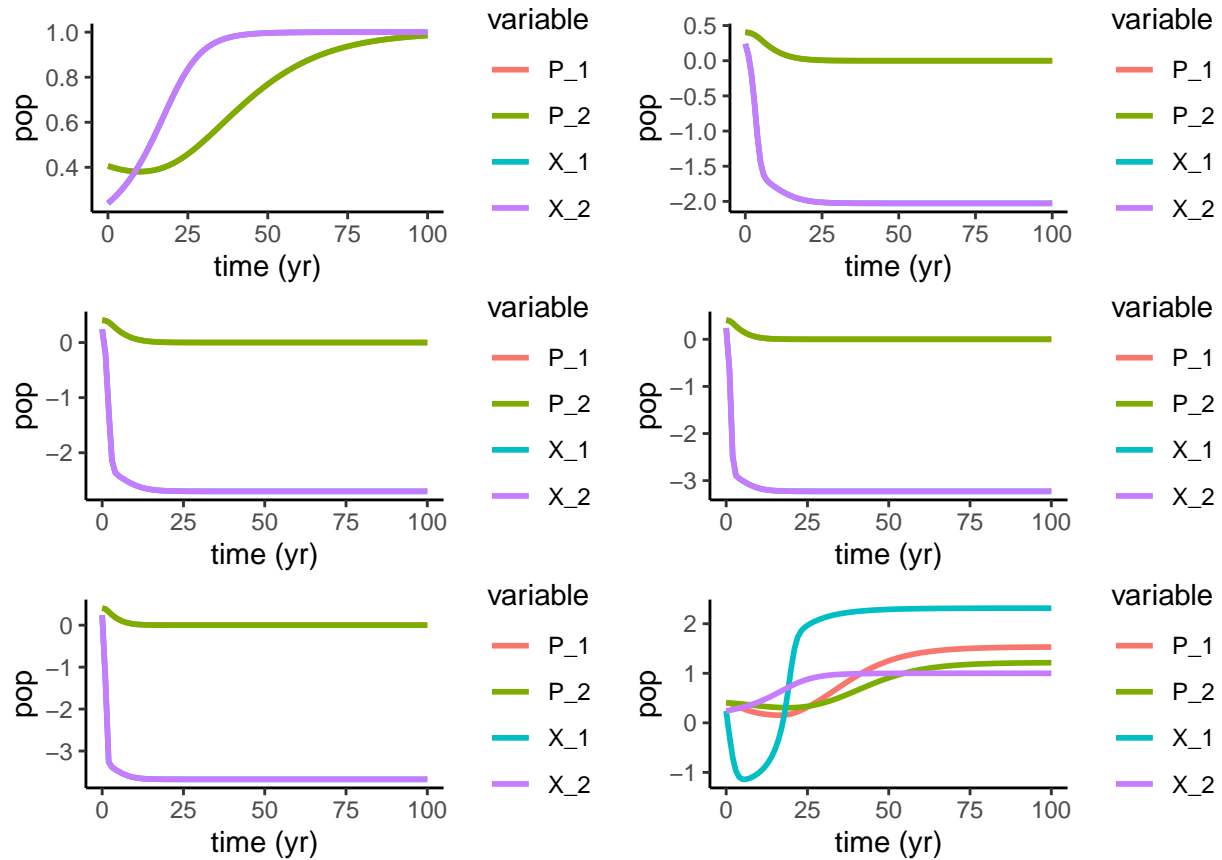
Figure 12: prop - Population influence on the other

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 31.536, R2 = 1.07302e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.07302e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 7.34831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 7.34831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.14878e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.14878e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 31.536, R2 = 4.01554e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 7.08957e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 7.08957e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.90779e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 99.2881, R2 = 5.90779e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 5.81679e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 5.81679e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1016
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 5.80305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 5.80305e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.7415
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 5.47027e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 5.47027e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.4867
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 4.13942e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.0951
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 13.4781, R2 = 4.08379e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.4781
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.01882e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.7041
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 7.6996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 7.6996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 5.09846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 5.09846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.8464
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 6.59609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 6.59609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 4.36775e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 4.36775e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.9452
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 6.99621e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 6.99621e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 4.6327e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 4.6327e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.02
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 4.84075e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.0802
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 4.30076e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.1308
##
```
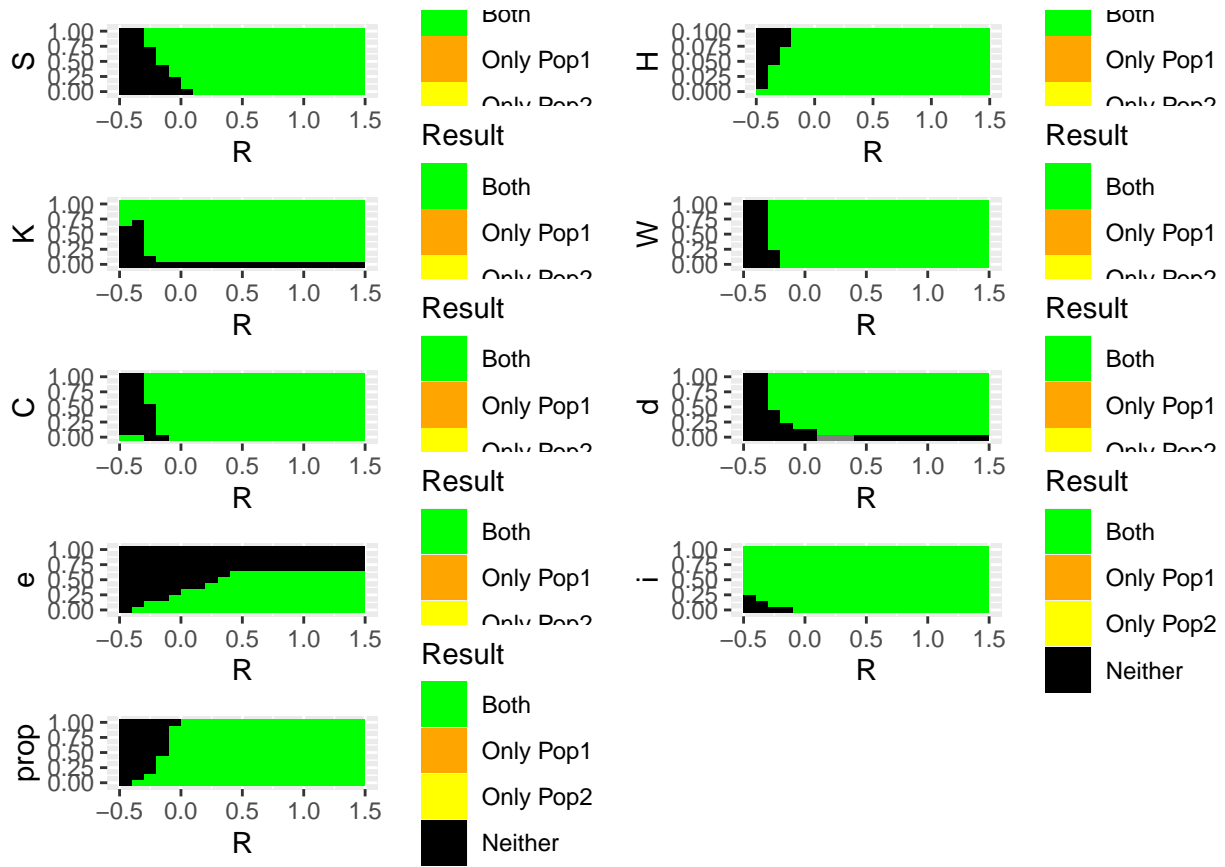
Figure 13: R parameter planes

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.6411
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.1661
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 5.02717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 5.02717e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4037
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 5.79537e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 5.79537e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##      taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.6418
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 5.80176e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 5.80176e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.8411
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 5.80582e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 5.80582e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.0068
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 5.80827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 5.80827e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1465
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 5.80931e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 5.80931e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##      taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2662
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 5.80999e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 5.80999e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3701
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4616
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 5.81068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.5427, R2 = 5.81068e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5427
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 5.81083e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 5.81083e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6155
##
```
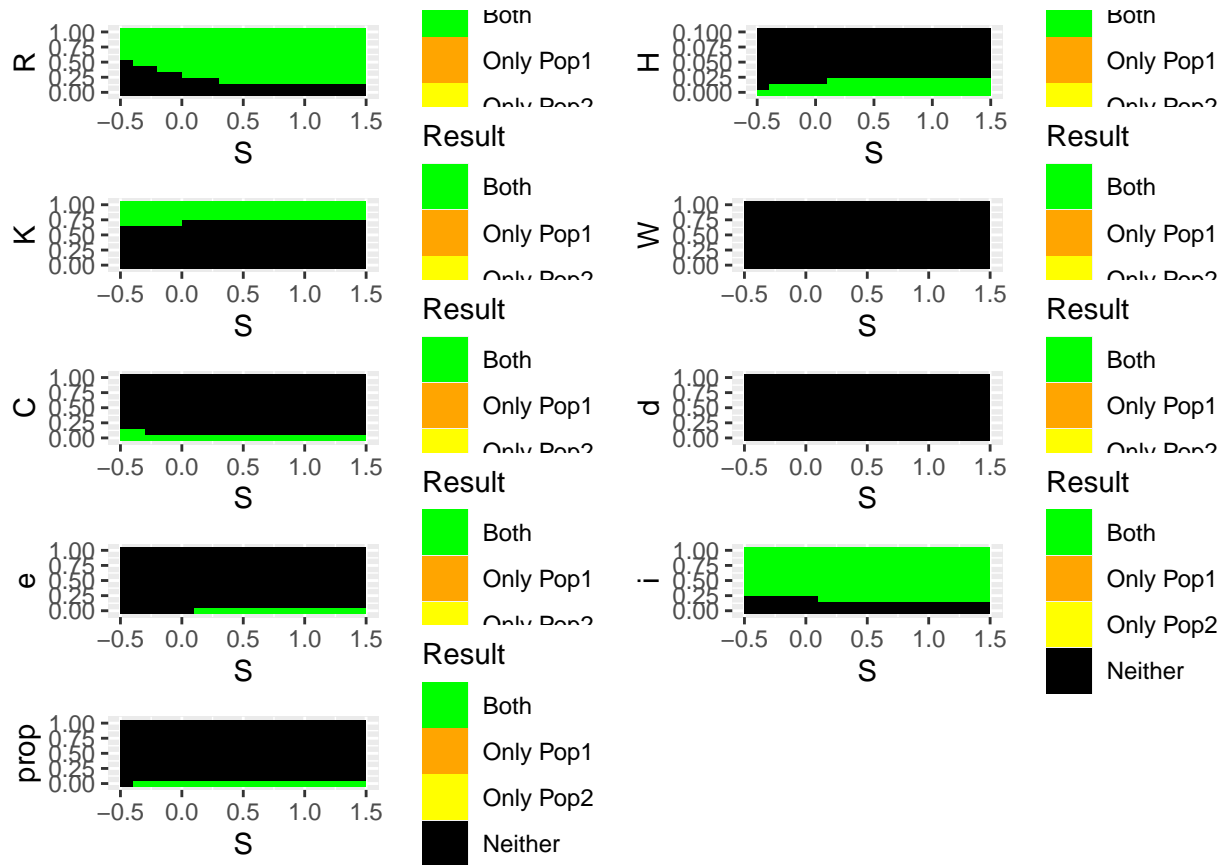

Figure 14: S parameter planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 4.58502e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.1818
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 5.87682e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 12.7992, R2 = 5.87682e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.7992
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 5.55125e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 5.55125e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.4942
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 5.50527e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 5.50527e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.2403
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 5.81038e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 5.81038e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.0238
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 5.81019e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 5.81019e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8363
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 5.81041e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 5.81041e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6722
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
```

```
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 5.81046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 5.81046e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5275
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 5.81035e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 5.81035e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3991
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 5.81017e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 5.81017e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2846
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 5.80998e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.1823, R2 = 5.80998e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1823
##
```
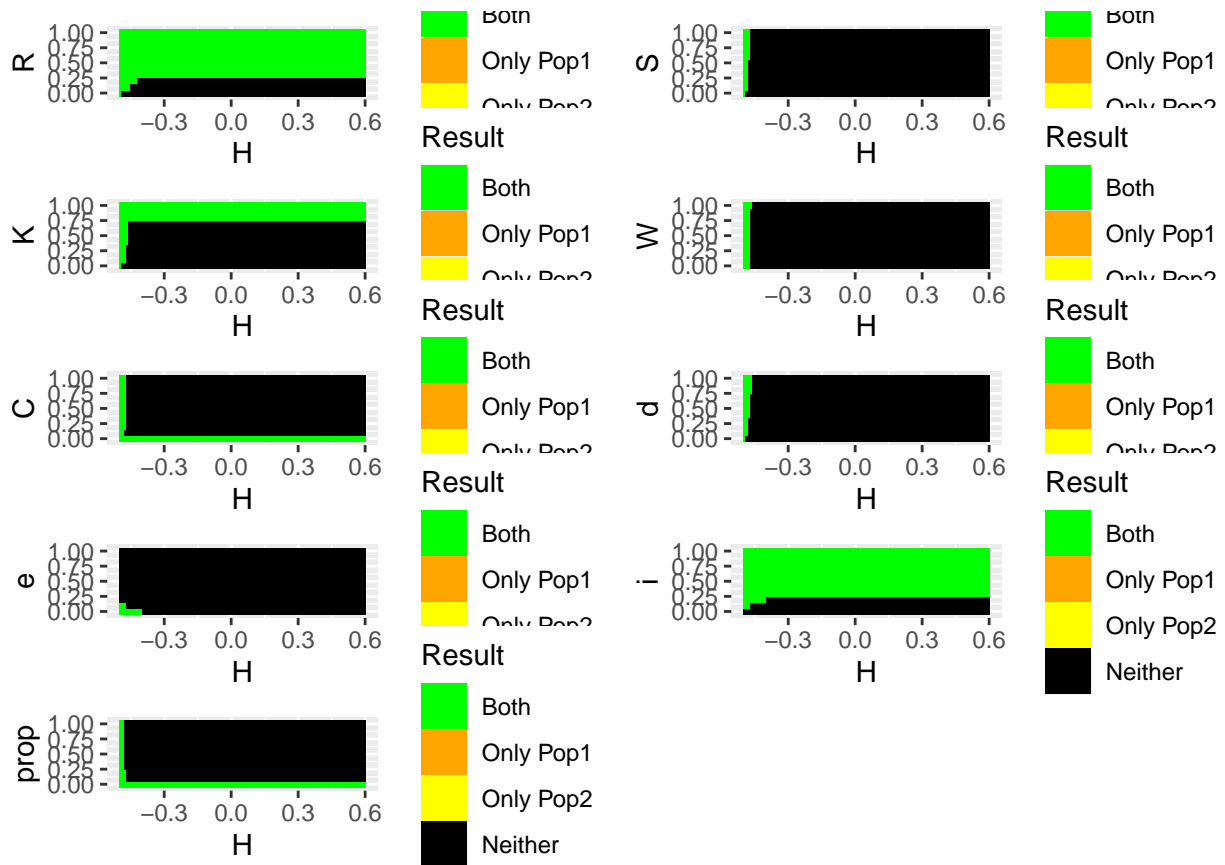

Figure 15: h parameter planes

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.6411
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.1802, R2 = 5.15866e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 14.1802, R2 = 2.96255e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 12.7079, R2 = 5.85801e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 5.85801e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.7079
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 5.3969e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 5.3969e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1992
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 5.98503e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 5.98503e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.143
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 5.58585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 5.58585e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.4818
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.24153e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.24153e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 58.1158
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 1.77491e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 62.1277
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 3.48902e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 68.9407
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.24048e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
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##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 78.1084
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 3.71435e-15
```

```
## 
## DLSODA-   Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
## 
## DLSODA-   At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
## 
## In above message, R1 = 90.5323
## 
```
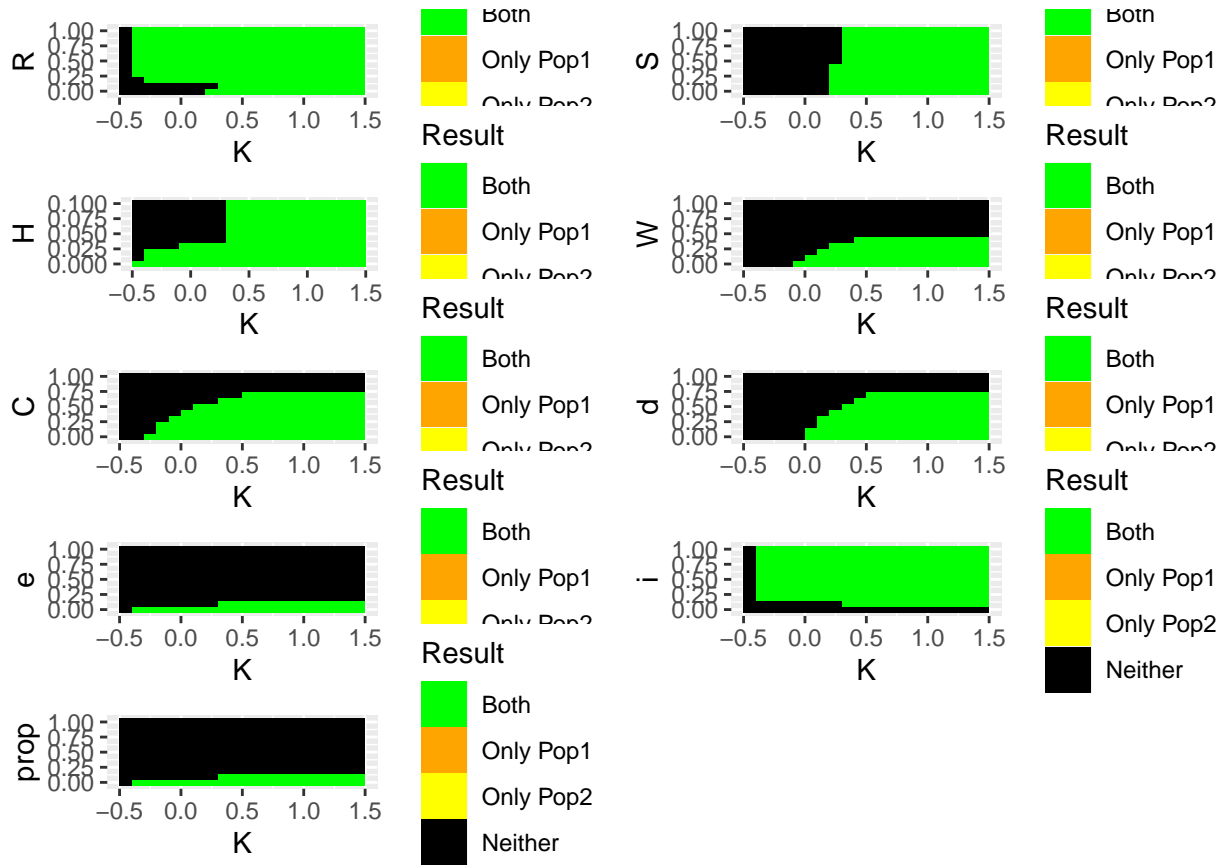

Figure 16: K parameter planes ranging from 0-1

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.1647e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.1647e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 9.33417e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 9.33417e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 17.1601, R2 = 2.2989e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 15.8871, R2 = 2.01207e-38
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.2565, R2 = 1.02861e-37
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 4.77434e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##         corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 14.8851, R2 = 4.27684e-52
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 5.69377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 5.69377e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1933
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 5.77964e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 5.77964e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1877
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 5.58431e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 5.58431e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2498
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 5.7288e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 5.7288e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3752
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 5.89787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 5.89787e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5634
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
```

```
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 5.01881e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 5.01881e-16
## 
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
## 
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
## 
```

```
## In above message, R1 = 11.8171
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 6.00517e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 6.00517e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
```

```
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.1421
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 5.17189e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 5.17189e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.548
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 5.45063e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 5.45063e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.0485
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 5.78992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 5.78992e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.663
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 5.107e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 5.107e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.4189
##
```
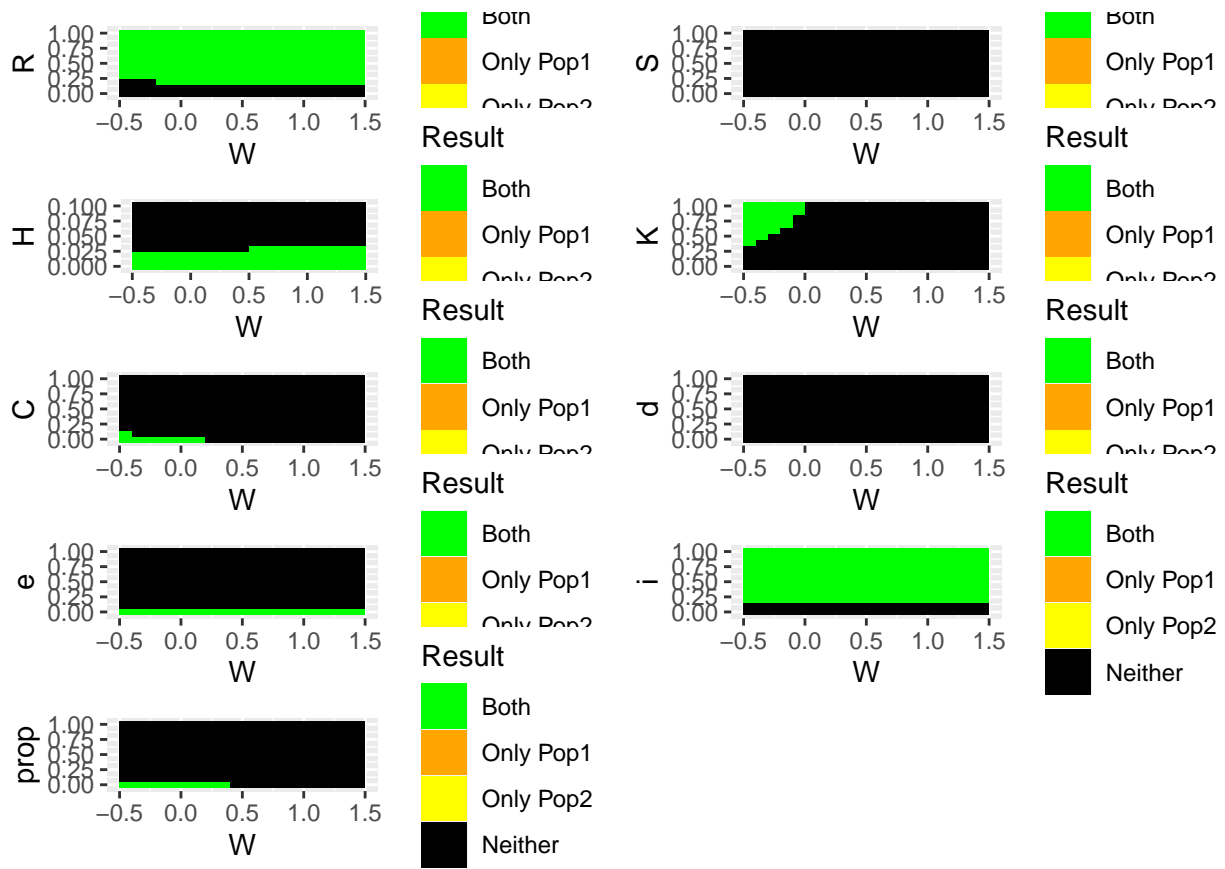
Figure 17: w parameter planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.68657e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.07302e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.07302e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 7.34831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 7.34831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.14878e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 31.536, R2 = 1.14878e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 31.536, R2 = 4.01554e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 7.08957e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 7.08957e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.90779e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.90779e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 6.99715e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 99.2881, R2 = 5.40049e-15
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 8.58214e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 7.24285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 6.11256e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1802, R2 = 5.15866e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 14.1802, R2 = 2.96255e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.1647e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.1647e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.30604e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 9.33417e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 9.33417e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 17.1601, R2 = 1.36983e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 17.1601, R2 = 2.2989e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.74452e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 2.91279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.8871, R2 = 5.27431e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.8871, R2 = 2.01207e-38
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 3.13752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 6.27456e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2565, R2 = 7.74531e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.2565, R2 = 1.02861e-37
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 7.94275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 6.70324e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 5.65717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8851, R2 = 4.77434e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 14.8851, R2 = 4.27684e-52
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 1.80142e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 55.9427
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 68.4016, R2 = 5.43654e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 5.43654e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 3.59867e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 3.59867e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 68.4016
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 5.62354e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 5.62354e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4433
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 5.14802e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 5.14802e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.9171
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 5.92422e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 5.92422e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
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## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.9453
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 5.21441e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
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## In above message, R1 = 11.1604, R2 = 5.21441e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1604
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 5.26594e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 5.26594e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8094
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
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## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 5.45035e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 5.45035e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.1867
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
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##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 5.92894e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 5.92894e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.5849
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 5.28338e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 5.28338e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.9999
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 24.3902, R2 = 2.25074e-41
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 91.2495, R2 = 1.81899e-12
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
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##        or with ABS(H) = HMIN
## In above message, R1 = 77.3589, R2 = 6.03708e-12
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 80.611, R2 = 4.45849e-11
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 84.7066, R2 = 5.16089e-11
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 4.67285e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 9.67983, R2 = 2.99002e-41
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 4.66947e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 8.08084, R2 = 2.29652e-44
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 2.58878e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 7.2457, R2 = 3.81393e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 4.24828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 4.24828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.96797e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.96797e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.70616e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.70616e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.46162e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.46162e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.23322e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.23322e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 6.69446, R2 = 1.35722e-54
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 2.53627e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##         corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 6.28977, R2 = 3.94098e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 5.97363, R2 = 5.71676e-51
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 9.94375e-17
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.71629, R2 = 3.86413e-40
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.91803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.91803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 3.03823e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 3.03823e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 5.50062, R2 = 3.80092e-41
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 4.18008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 4.18008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.90428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.90428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.64666e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.64666e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.40606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.40606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.18132e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.18132e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
```

```
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.31585, R2 = 1.88666e-40
##
```
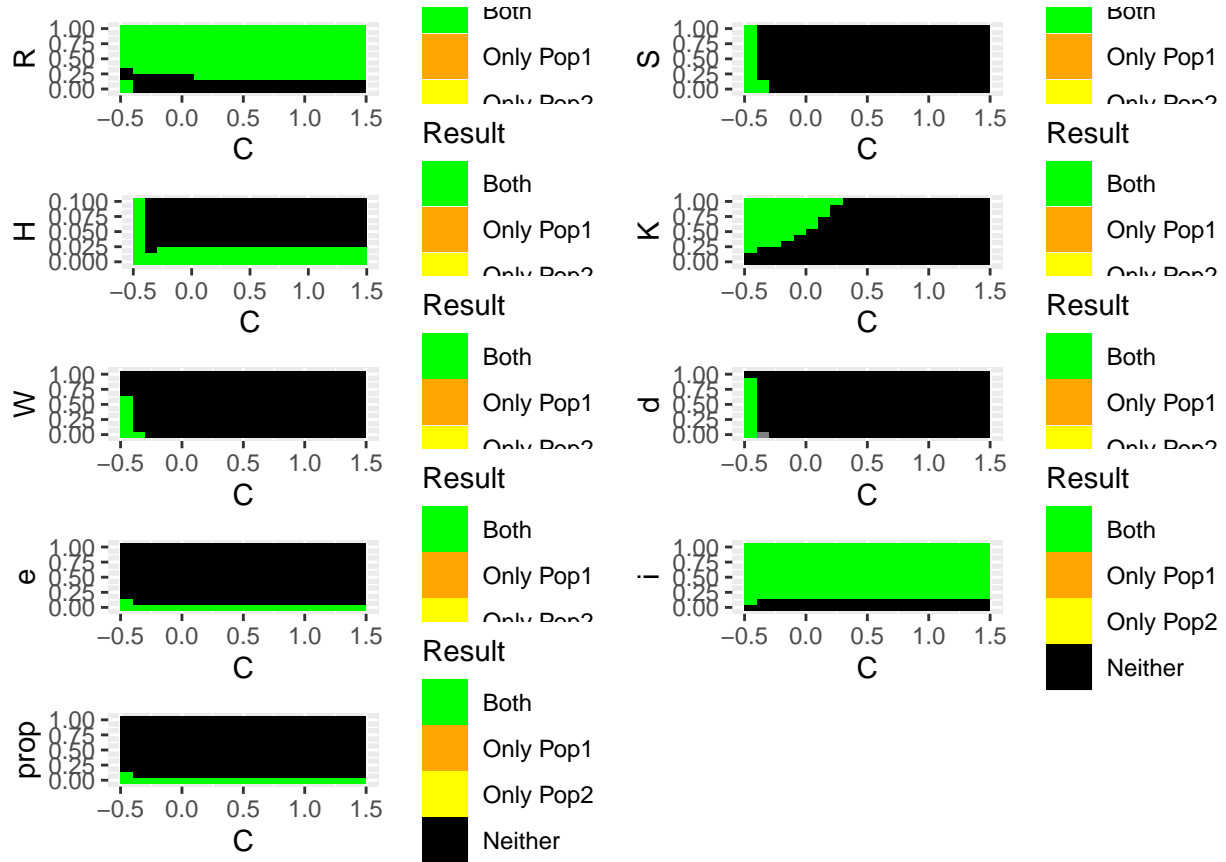

Figure 18: c parameter planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 8.59255e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 7.06973e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 5.81679e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1016, R2 = 5.81679e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1016
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 8.57224e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 7.05302e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7415, R2 = 5.80305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.7415, R2 = 5.80305e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.7415
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 8.08066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 6.64856e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 5.47027e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4867, R2 = 5.47027e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.4867
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 7.55211e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 6.18052e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 5.05804e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0951, R2 = 4.13942e-16
##
## DLSODA-  Above warning has been issued I1 times.
##         It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.0951
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 7.45061e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 6.09746e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.99007e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4781, R2 = 4.08379e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.4781
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 7.33208e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 6.00046e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.91068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.7041, R2 = 4.01882e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.7041
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 7.6996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 7.6996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 6.37787e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 5.09846e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 5.09846e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.8464, R2 = 4.22325e-16
##
## DLSODA-   Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-   At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.8464
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 8.25131e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 6.59609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 6.59609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 5.46379e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 4.36775e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.9452, R2 = 4.36775e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.9452
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 8.75184e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 6.99621e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 6.99621e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 5.79523e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 4.6327e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.02, R2 = 4.6327e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.02
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 8.83164e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 7.22767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 5.91501e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.0802, R2 = 4.84075e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.0802
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 7.84646e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.1308, R2 = 5.25519e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.1308, R2 = 4.30076e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.1308
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 7.66066e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.1661, R2 = 6.30089e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.1661
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 7.42612e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 6.11002e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 5.02717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4037, R2 = 5.02717e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4037
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 8.5609e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 7.04369e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 5.79537e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.6418, R2 = 5.79537e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.6418
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 8.57034e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 7.05146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 5.80176e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.8411, R2 = 5.80176e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.8411
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.0068, R2 = 8.57634e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 7.05639e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 5.80582e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.0068, R2 = 5.80582e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.0068
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 8.57996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 7.05937e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 5.80827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1465, R2 = 5.80827e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1465
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 8.5815e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 7.06064e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 5.80931e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2662, R2 = 5.80931e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2662
##
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## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 8.5825e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 7.06146e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 5.80999e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3701, R2 = 5.80999e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
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## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3701
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4616, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
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```
## In above message, R1 = 11.4616, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4616
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 8.58352e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 7.0623e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 5.81068e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5427, R2 = 5.81068e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5427
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 8.58374e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 7.06248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 5.81083e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6155, R2 = 5.81083e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6155
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 8.36508e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 6.84585e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 5.60253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.1818, R2 = 4.58502e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.1818
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 8.69428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 7.14803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 5.87682e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7992, R2 = 5.87682e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.7992
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 12.4942, R2 = 8.20391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 6.74846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 5.55125e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.4942, R2 = 5.55125e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.4942
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 8.13317e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 6.69143e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 5.50527e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.2403, R2 = 5.50527e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.2403
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 8.58324e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 7.062e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 5.81038e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.0238, R2 = 5.81038e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.0238
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 8.58281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 7.06171e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 5.81019e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8363, R2 = 5.81019e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8363
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 8.58312e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 7.06197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6722, R2 = 5.81041e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.6722, R2 = 5.81041e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6722
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 8.58319e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 7.06203e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 5.81046e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5275, R2 = 5.81046e-16
##
## DLSODA-   Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-   At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5275
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 8.58303e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
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```
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 7.0619e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 5.81035e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3991, R2 = 5.81035e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3991
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 8.58275e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 7.06167e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 5.81017e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2846, R2 = 5.81017e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2846
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 8.58248e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 7.06145e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 5.80998e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1823, R2 = 5.80998e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1823
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 12.7079, R2 = 8.65342e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 7.11982e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 5.85801e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.7079, R2 = 5.85801e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.7079
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 7.97228e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 6.55939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 5.3969e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1992, R2 = 5.3969e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1992
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 8.84117e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 7.27425e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 5.98503e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.143, R2 = 5.98503e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.143
##
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```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 8.25187e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 6.78923e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 5.58585e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.4818, R2 = 5.58585e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
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## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.4818
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 3.31383e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.72544e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 58.1158, R2 = 2.24153e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
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```
## In above message, R1 = 58.1158, R2 = 2.24153e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 58.1158
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 3.24232e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.65233e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 2.16971e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 62.1277, R2 = 1.77491e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 62.1277
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 6.37465e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 5.21439e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 4.26533e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.9407, R2 = 3.48902e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 68.9407
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 5.92118e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 4.84328e-15
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.96162e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 78.1084, R2 = 3.24048e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 78.1084
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 6.78783e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 5.55195e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 4.54112e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 90.5323, R2 = 3.71435e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 90.5323
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.1933, R2 = 8.41082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 6.92021e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 5.69377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1933, R2 = 5.69377e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1933
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 8.53767e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 7.02457e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 5.77964e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1877, R2 = 5.77964e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##      taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1877
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 8.24913e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 6.78717e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 5.58431e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.2498, R2 = 5.58431e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.2498
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 8.46257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 6.96279e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 5.7288e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.3752, R2 = 5.7288e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
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## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.3752
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 8.71231e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 7.16827e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.5634, R2 = 5.89787e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.5634, R2 = 5.89787e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.5634
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 7.41377e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 6.09986e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 5.01881e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8171, R2 = 5.01881e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8171
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 8.87082e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 7.29868e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 6.00517e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1421, R2 = 6.00517e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.1421
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 7.6399e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 6.28591e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 5.17189e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.548, R2 = 5.17189e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.548
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 8.05165e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
```

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##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 6.62469e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 5.45063e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.0485, R2 = 5.45063e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.0485
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 13.663, R2 = 8.55285e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 7.03707e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 5.78992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.663, R2 = 5.78992e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.663
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 7.54404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 6.20704e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 5.107e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.4189, R2 = 5.107e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 14.4189
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 3.28831e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.69062e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 2.20157e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 55.9427, R2 = 1.80142e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 55.9427
##
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```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.15353e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 7.04507e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 24.3902, R2 = 1.40901e-15
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 24.3902, R2 = 2.25074e-41
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 6.80206e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 5.43654e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 5.43654e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 4.50254e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 3.59867e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 68.4016, R2 = 3.59867e-15
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 68.4016
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 8.31058e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 6.83628e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.4433, R2 = 5.62354e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4433, R2 = 5.62354e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4433
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 7.60512e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 6.2571e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 5.14802e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9171, R2 = 5.14802e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.9171
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 8.7513e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 7.20032e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 5.92422e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.9453, R2 = 5.92422e-16
##
## DLSODA-  Above warning has been issued I1 times.
##         It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.9453
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 7.70271e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 6.33759e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 5.21441e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.1604, R2 = 5.21441e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.1604
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 7.77883e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 6.40022e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 5.26594e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8094, R2 = 5.26594e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8094
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 8.05124e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 6.62436e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 5.45035e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 12.1867, R2 = 5.45035e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.1867
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 8.75821e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 7.20603e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 5.92894e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.5849, R2 = 5.92894e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
```

```
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.5849
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 7.80459e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 6.42142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 5.28338e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 12.9999, R2 = 5.28338e-16
```

```
##
## DLSODA-   Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-   At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 12.9999
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 4.14474e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.2328
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7812
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 5.13128e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 5.13128e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.5153
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 4.10242e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4373
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 7.74908e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 7.74908e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 10.448, R2 = 7.74908e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 4.24738e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.448
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 7.17887e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 7.17887e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 4.75365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 4.75365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4996
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 6.06388e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 6.06388e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 4.01534e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 4.01534e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
```

```
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.5679
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 8.17959e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 8.17959e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 5.4163e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 5.4163e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.641
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 5.12835e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 5.12835e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 10.7133, R2 = 5.12835e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 4.19696e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7133
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 4.11444e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7822
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7812
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 4.14474e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.2328
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 8.3421e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 19.592
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 1.75584e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 53.8086
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
```

```
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.37515e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 6.81684
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.02603e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 5.06862
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.41775e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 4.10138
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.09224e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 3.4746
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.21571e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 3.03054
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
```

```
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.03875e-16
## 
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
## 
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
## 
## In above message, R1 = 2.69716
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 2.16008e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 2.16008e-16
## 
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 2.43644, R2 = 2.16008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.18397e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.43644
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.02878e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.22624
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.18998e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
```

```
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.05271
##
```
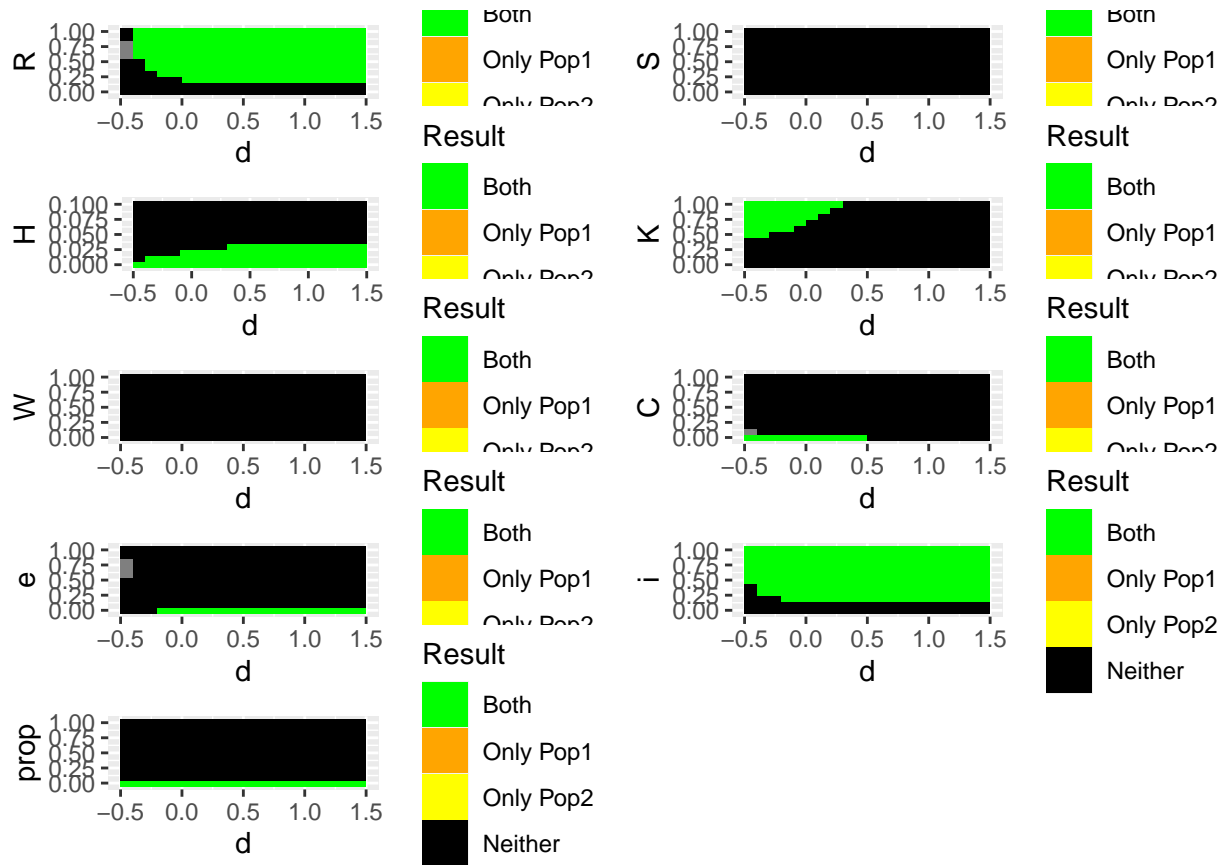

Figure 19: d parameter planes

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 91.2495, R2 = 1.81899e-12
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 77.3589, R2 = 6.03708e-12
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 80.611, R2 = 4.45849e-11
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 84.7066, R2 = 5.16089e-11
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 4.14474e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.2328
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
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```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7812
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 7.57991e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 6.23656e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 5.13128e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5153, R2 = 5.13128e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.5153
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 7.48461e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 6.12528e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 5.01283e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4373, R2 = 4.10242e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4373
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 7.74908e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 7.74908e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 7.74908e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 6.34172e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 5.18996e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.448, R2 = 4.24738e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
```

```
## In above message, R1 = 10.448
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 7.17887e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 7.17887e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 5.94653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 4.75365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 4.75365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.4996, R2 = 3.93763e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
```

```
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.4996
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 7.58555e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 6.06388e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 6.06388e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 5.02294e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 4.01534e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.5679, R2 = 4.01534e-16
##
## DLSODA-  Above warning has been issued I1 times.
##         It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.5679
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 8.17959e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 8.17959e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 6.77547e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 5.4163e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 5.4163e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##         (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.641, R2 = 4.48653e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.641
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 7.65709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 6.26644e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 5.12835e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 5.12835e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 5.12835e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7133, R2 = 4.19696e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7133
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 7.50654e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 10.7822, R2 = 6.14323e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 5.02752e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7822, R2 = 4.11444e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7822
##
```
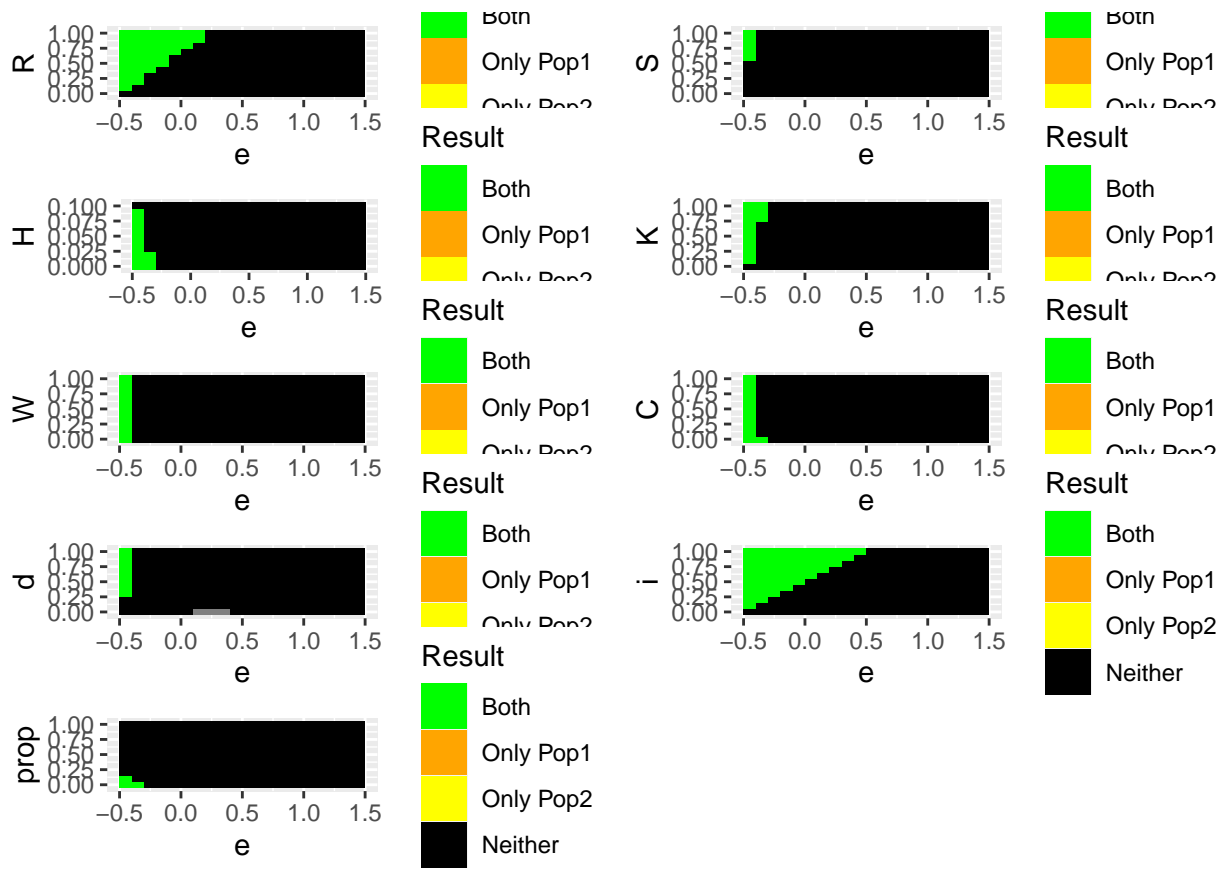
Figure 20: e parameter planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 8.6091e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 7.08335e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 10.7812, R2 = 5.828e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 10.7812
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 7.56181e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 6.18846e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 5.06454e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 13.2328, R2 = 4.14474e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 13.2328
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.52196e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.24555e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 1.01934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 19.592, R2 = 8.3421e-16
##
## DLSODA-  Above warning has been issued I1 times.
##     It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 19.592
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 3.20342e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##     (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.62163e-15
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 2.1455e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 53.8086, R2 = 1.75584e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 53.8086
##
```
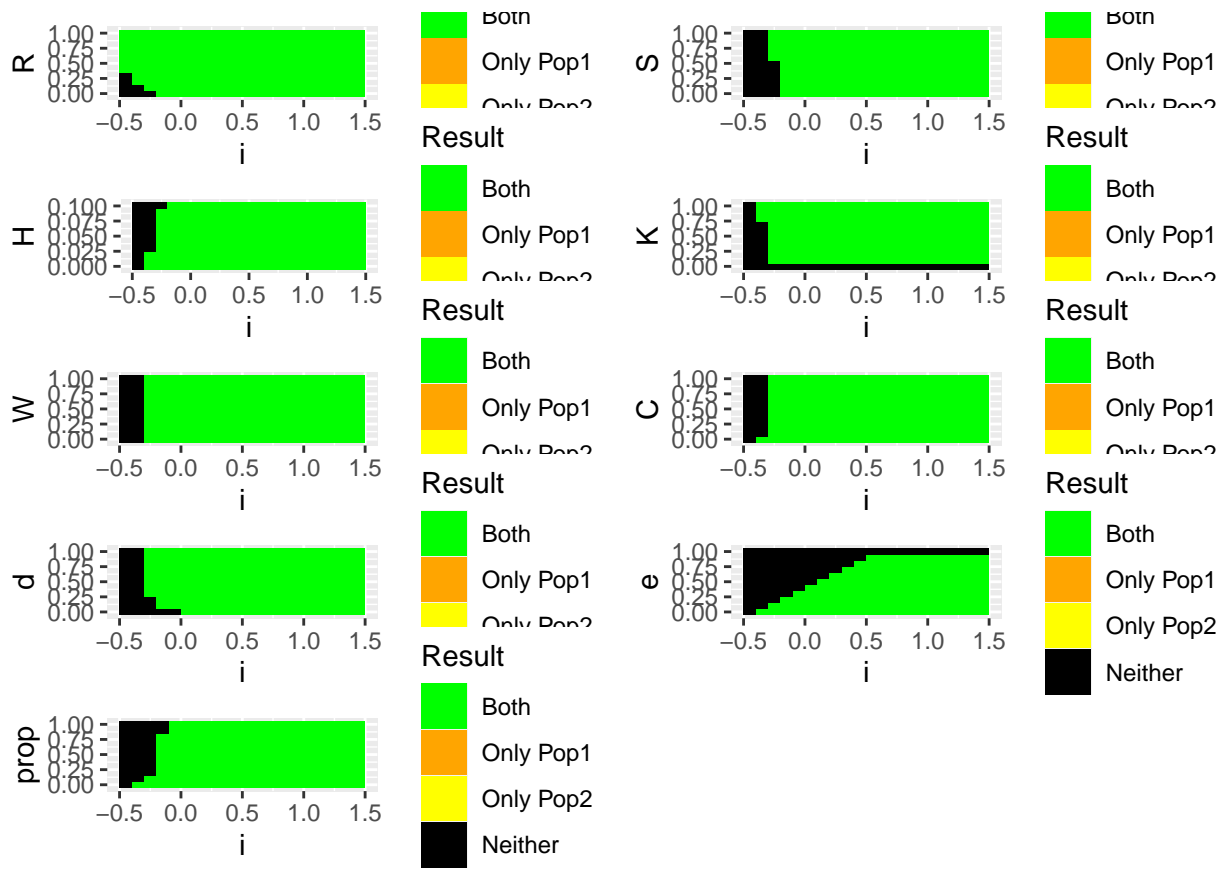
Figure 21: i parameter planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 7.77391e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 6.56075e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 5.53692e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 9.67983, R2 = 4.67285e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 9.67983, R2 = 2.99002e-41
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 6.06281e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 5.93699e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 2.33473e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 8.08084, R2 = 4.66947e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 8.08084, R2 = 2.29652e-44
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 4.30674e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.63466e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 3.06746e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 7.2457, R2 = 2.58878e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 7.2457, R2 = 3.81393e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 4.24828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 4.24828e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.96797e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.96797e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.70616e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.70616e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.46162e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.46162e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.23322e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.69446, R2 = 3.23322e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 6.69446, R2 = 1.35722e-54
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 4.21939e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.56094e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 3.00525e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 6.28977, R2 = 2.53627e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 6.28977, R2 = 3.94098e-42
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 1.75296e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.50592e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.97363, R2 = 3.86197e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.97363, R2 = 5.71676e-51
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 2.81385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 4.43253e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 6.15152e-17
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.71629, R2 = 9.94375e-17
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.71629, R2 = 3.86413e-40
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.91803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.91803e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 2.31831e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 4.12385e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 3.03823e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.50062, R2 = 3.03823e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.50062, R2 = 3.80092e-41
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 4.18008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 4.18008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.90428e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.90428e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.64666e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.64666e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.40606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.40606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.18132e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.31585, R2 = 3.18132e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 5.31585, R2 = 1.88666e-40
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 4.33331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 3.54631e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.90225e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 6.81684, R2 = 2.37515e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
```

```
##
## In above message, R1 = 6.81684
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.69636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 3.02504e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.47565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 5.06862, R2 = 2.02603e-16
##
## DLSODA-  Above warning has been issued I1 times.
```

```
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 5.06862
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 4.41103e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 3.60992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.9543e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 4.10138, R2 = 2.41775e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 4.10138
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.99273e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.63081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.33463e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.4746, R2 = 1.09224e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 3.4746
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 2.21798e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.81516e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.4855e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 3.03054, R2 = 1.21571e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 3.03054
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.89514e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.55095e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.26927e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.69716, R2 = 1.03875e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.69716
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 2.16008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 2.16008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 2.16008e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.76777e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.44672e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.43644, R2 = 1.18397e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.43644
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##           such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.87694e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.53606e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.25709e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.22624, R2 = 1.02878e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.22624
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 2.17105e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.77675e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.45406e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 2.05271, R2 = 1.18998e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 2.05271
##
```
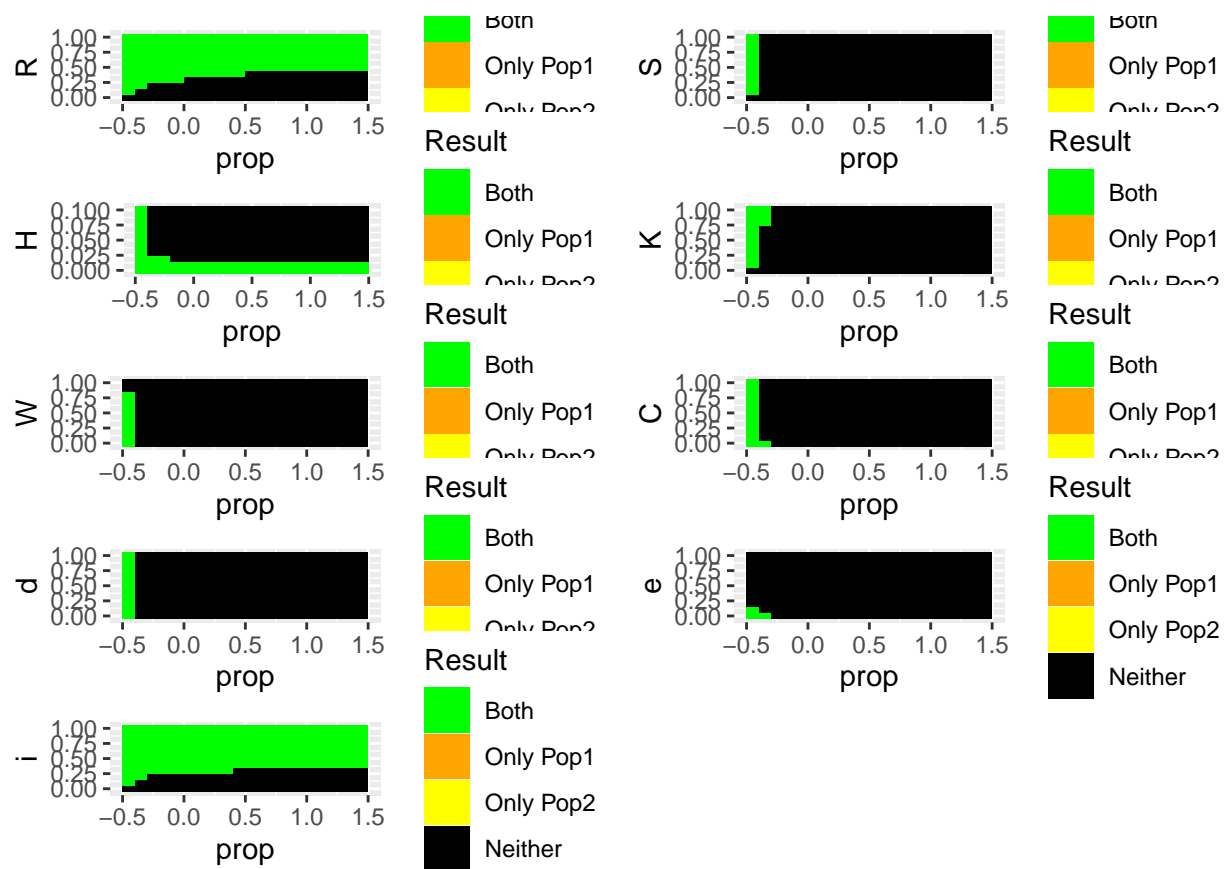
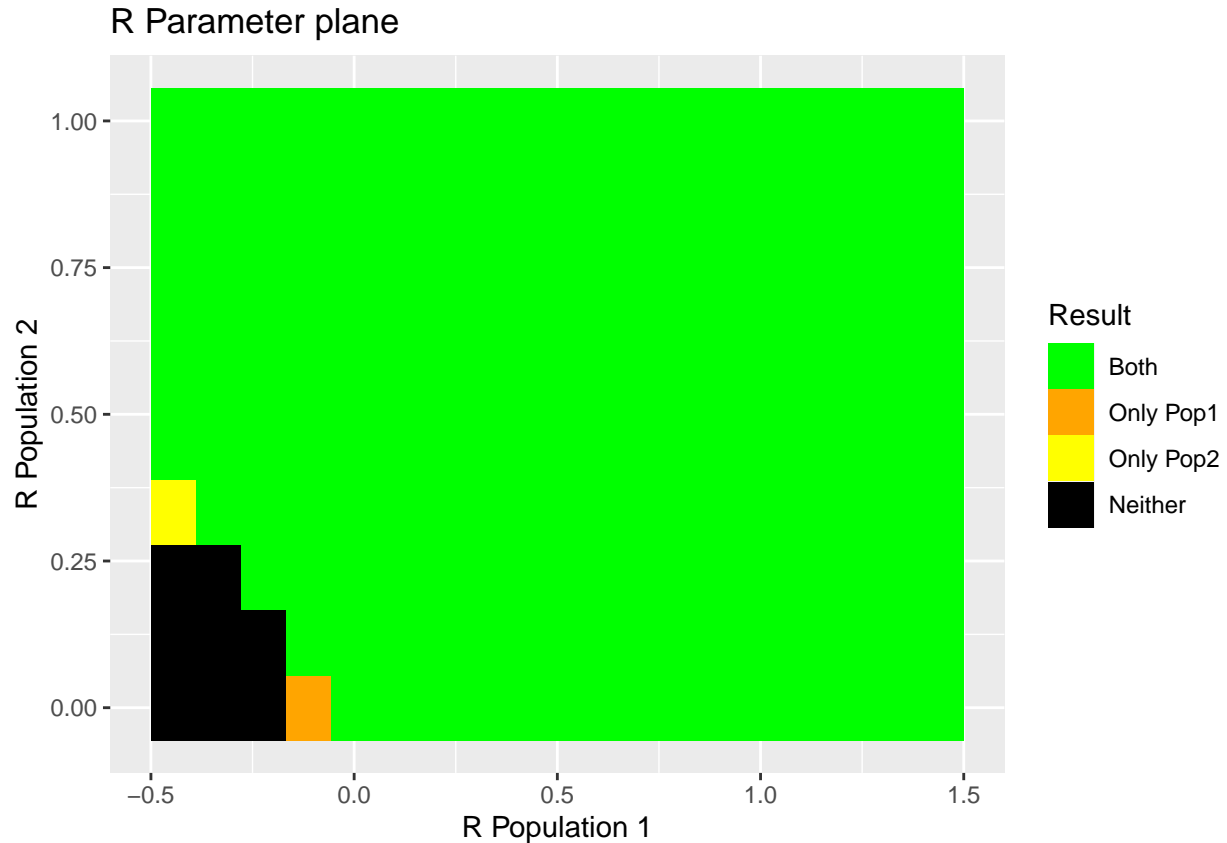Figure 22: prop parameter planes

Figure 23: r population planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.74158e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.74158e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.62667e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.62667e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```
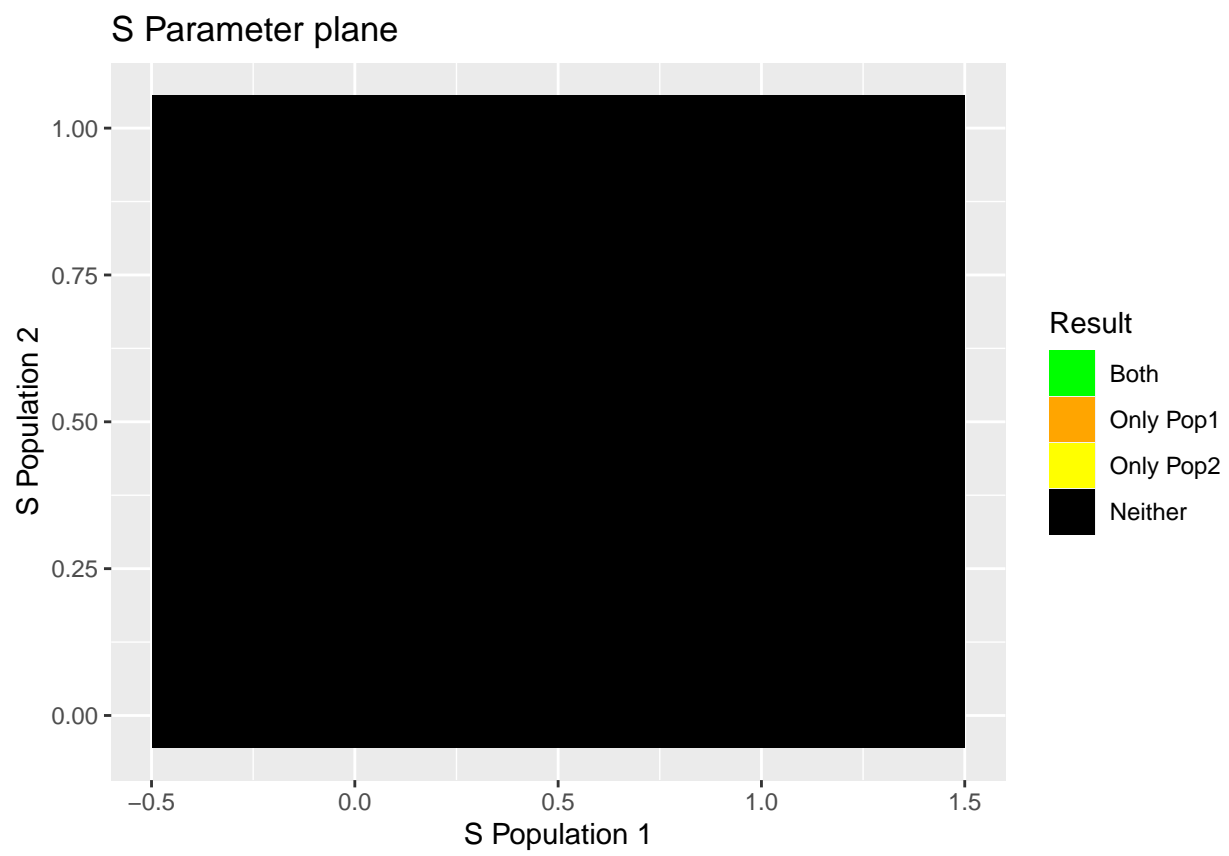
S Parameter plane
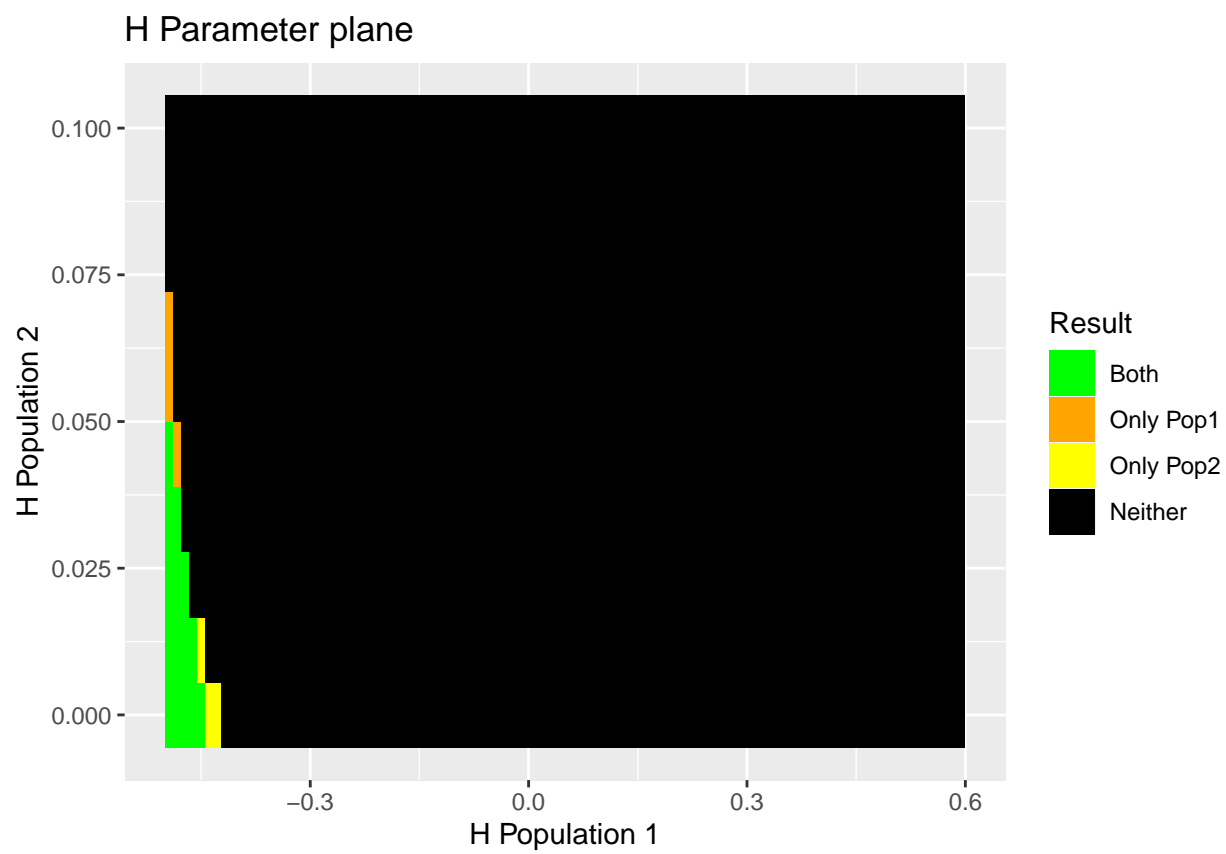

Figure 24: s population planes
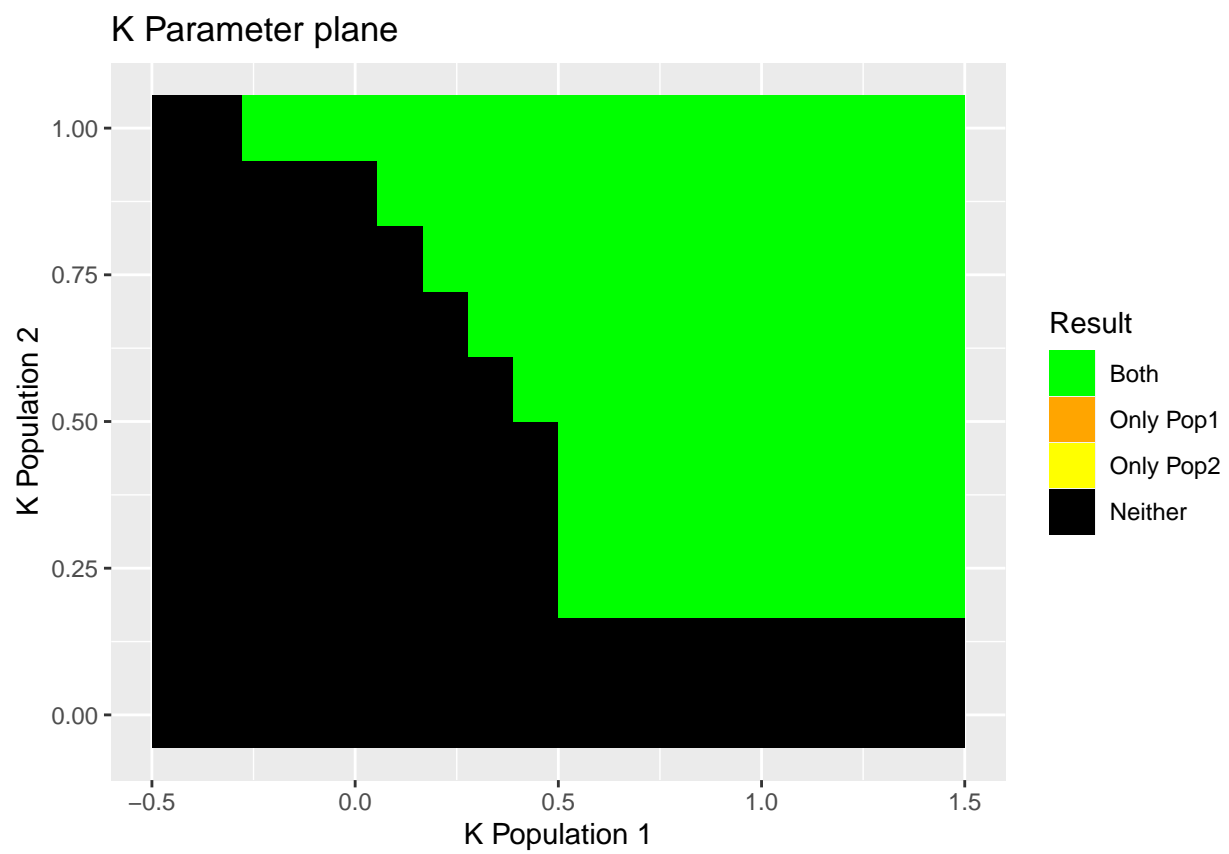
Figure 25: h population planes

K Parameter plane

Figure 26: k population planes 0 to 1
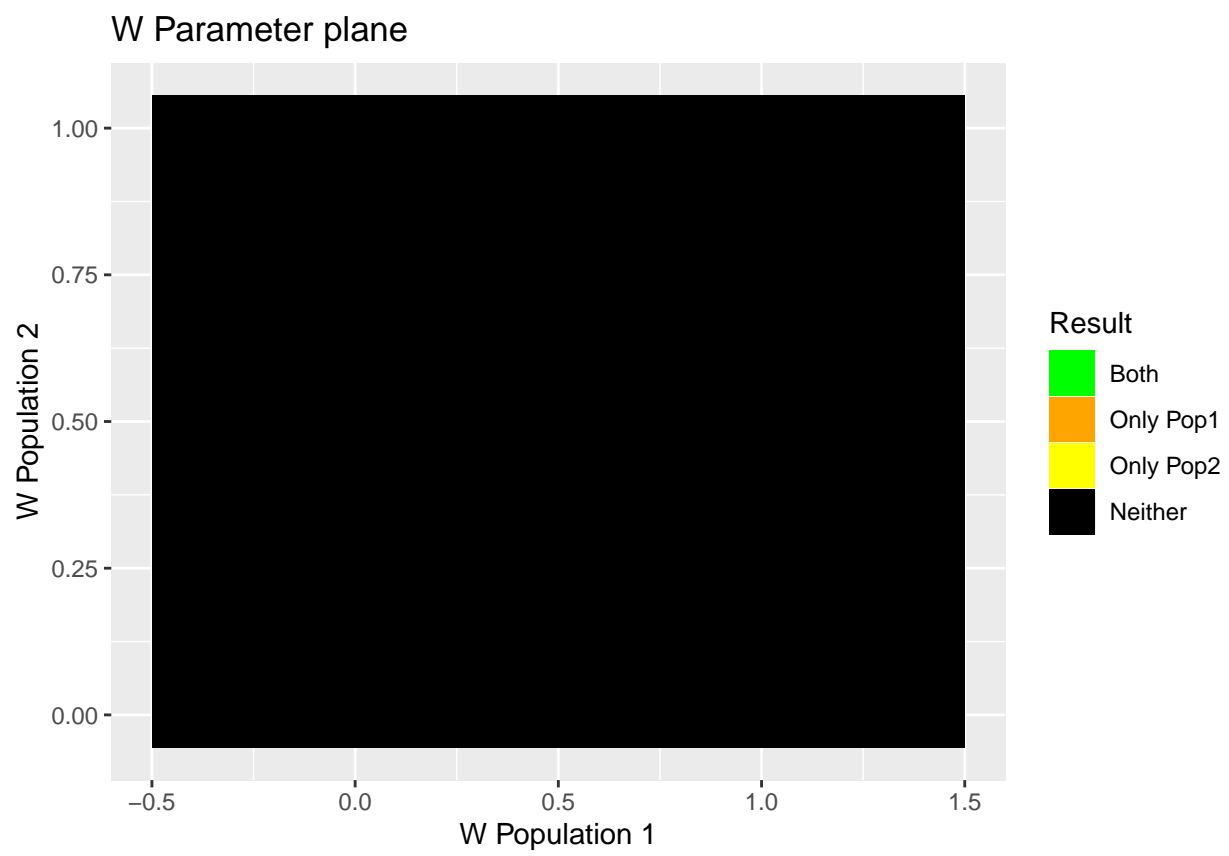
W Parameter plane

Figure 27: w population planes

```
## In above message, R1 = 21.5643, R2 = 1.51934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.51934e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.41909e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.41909e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.32545e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.32545e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 21.5643
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.6903e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.6903e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.57877e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.57877e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.4746e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.4746e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.3773e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.3773e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.28643e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.28643e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 16.4528
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 8.73258e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 8.73258e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 8.15638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 8.15638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.6182e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.6182e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.11553e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.11553e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 6.64604e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 6.64604e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 15.6429
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.91844e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.91844e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.91844e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.91844e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.81962e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.81962e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.81962e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.81962e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 7.50414e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 7.50414e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.2763, R2 = 2.22706e-43
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 6.65706e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 6.65706e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 6.65706e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 8.20392e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 8.20392e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 8.20392e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 3.40857e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 3.40857e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 3.40857e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 3.40857e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
```

```
## DLSODA-  At T (=R1) and step size H (=R2), the
##          corrector convergence failed repeatedly
##          or with ABS(H) = HMIN
## In above message, R1 = 15.0649, R2 = 6.06489e-48
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.41183e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.41183e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.41183e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.82365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.82365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.82365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.82365e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.34492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.34492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##          such that in the machine, T + H = T on the next step
##          (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 3.34492e-16
```

```
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##         or with ABS(H) = HMIN
## In above message, R1 = 14.9269, R2 = 2.52292e-48
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 8.22842e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 8.22842e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 8.22842e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 6.94408e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 6.94408e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 6.94408e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.8602e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.8602e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.8602e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 4.94553e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 14.8297, R2 = 1.80493e-43
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.87081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.87081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.87081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.87081e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.10629e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.10629e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.10629e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.21257e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.21257e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.21257e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##          corrector convergence failed repeatedly
##          or with ABS(H) = HMIN
## In above message, R1 = 14.7575, R2 = 3.77793e-45
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 5.44423e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.11178e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.11178e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.74409e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.74409e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.74409e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.19404e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 2.19404e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 4.38808e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 4.38808e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.53447e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.53447e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.53447e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.29498e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.29498e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.29498e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.09287e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.09287e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 1.09287e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 21.5643, R2 = 9.22299e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.76338e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.76338e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.64703e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.64703e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.53835e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.53835e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.43685e-15
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.43685e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.34204e-15
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 16.4528, R2 = 1.34204e-15
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 16.4528
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 5.50636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 5.50636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 5.50636e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 4.21863e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 4.21863e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 15.6429, R2 = 4.21863e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.79432e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.79432e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 7.79432e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.6429, R2 = 4.70376e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.6429, R2 = 1.16984e-44
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.46156e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.46156e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 5.46156e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 8.78182e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 15.2763, R2 = 8.78182e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 8.78182e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.11667e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.11667e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 4.11667e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.2763, R2 = 7.63251e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.542e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.542e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.542e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 4.97786e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 15.0649, R2 = 4.97786e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 4.97786e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 4.97786e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.02925e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.02925e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 15.0649, R2 = 2.02925e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 15.0649, R2 = 2.7614e-44
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 8.08024e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 8.08024e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 8.08024e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.9269, R2 = 6.819e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.819e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 6.819e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 5.75468e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 5.75468e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 5.75468e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.9269, R2 = 4.85648e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 14.9269, R2 = 1.05451e-38
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 8.31264e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 8.31264e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.8297, R2 = 8.31264e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 7.01517e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 7.01517e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 7.01517e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.92023e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.92023e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 5.92023e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.8297, R2 = 4.99617e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##       corrector convergence failed repeatedly
##       or with ABS(H) = HMIN
## In above message, R1 = 14.8297, R2 = 1.94937e-52
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 8.75542e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.7575, R2 = 8.75542e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.57521e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.57521e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.57521e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.60347e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.60347e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.60347e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 3.60347e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7575, R2 = 6.64995e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
## In above message, R1 = 14.7575, R2 = 9.49942e-40
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 14.7017, R2 = 7.88313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 7.88313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 7.88313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 6.65262e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 6.65262e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 6.65262e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 5.61427e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 5.61427e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 5.61427e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 14.7017, R2 = 4.73796e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At T (=R1) and step size H (=R2), the
##        corrector convergence failed repeatedly
##        or with ABS(H) = HMIN
```

```
## In above message, R1 = 14.7017, R2 = 1.39742e-41
##
```
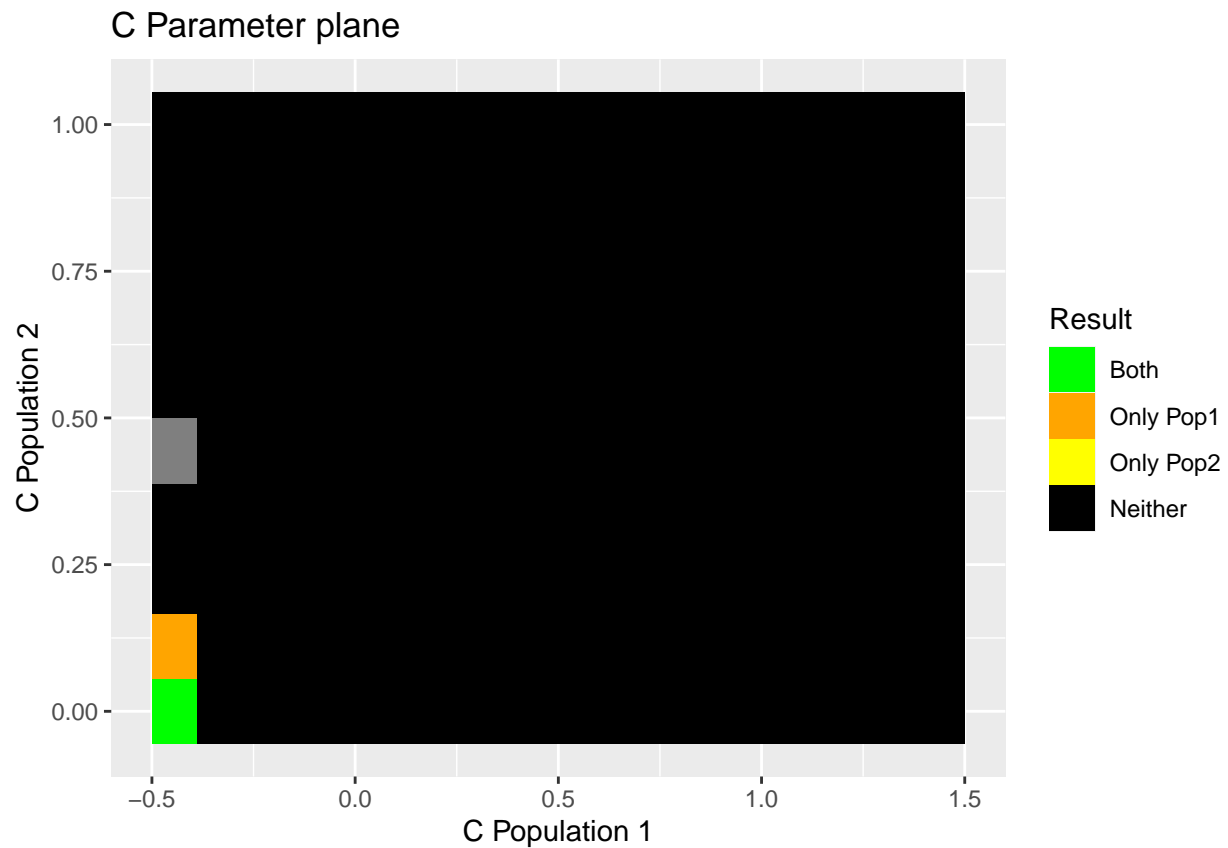
C Parameter plane

Figure 28: c population planes

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 8.58313e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 7.06198e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.4614, R2 = 5.81042e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.4614
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 5.78554e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 5.78554e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6361
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 5.45142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 5.45142e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.7203
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
```

```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 5.43025e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 5.43025e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
```

```
## In above message, I1 = 5000
##
## In above message, R1 = 11.777
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 4.4087e-16
##
```

```
## DLSODA-   Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-   At current T (=R1), MXSTEP (=I1) steps
##         taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8188
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
##
## DLSODA-   Warning..Internal T (=R1) and H (=R2) are
##         such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 4.387e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8512
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 4.71012e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8772
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 4.68855e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8987
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
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```
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 4.66715e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.9167
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 4.7104e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.9321
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 8.54638e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 7.03174e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 5.78554e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.6361, R2 = 5.78554e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.6361
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 8.05282e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 6.62565e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 5.45142e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.7203, R2 = 5.45142e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.7203
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
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##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 8.02154e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 6.59992e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 5.43025e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.777, R2 = 5.43025e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##          taken on this call before reaching TOUT
```

```
## In above message, I1 = 5000
##
## In above message, R1 = 11.777
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 8.0434e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 6.58259e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 5.38708e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8188, R2 = 4.4087e-16
##
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## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8188
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 8.0038e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 6.55018e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 5.36056e-16
```

```
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8512, R2 = 4.387e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8512
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 8.59331e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 7.03263e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 5.75539e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8772, R2 = 4.71012e-16
##
## DLSODA-  Above warning has been issued I1 times.
##       It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8772
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 8.55397e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 7.00043e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
```

```
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 5.72904e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.8987, R2 = 4.68855e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##       taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.8987
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 8.51492e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##       such that in the machine, T + H = T on the next step
##       (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
```

```
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 6.96847e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 5.70289e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9167, R2 = 4.66715e-16
##
## DLSODA-  Above warning has been issued I1 times.
##        It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.9167
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 8.59383e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##        (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
```

```
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 7.03305e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 5.75574e-16
##
## DLSODA-  Warning..Internal T (=R1) and H (=R2) are
##        such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 11.9321, R2 = 4.7104e-16
##
## DLSODA-  Above warning has been issued I1 times.
##      It will not be issued again for this problem.
## In above message, I1 = 10
##
## DLSODA-  At current T (=R1), MXSTEP (=I1) steps
##        taken on this call before reaching TOUT
## In above message, I1 = 5000
##
## In above message, R1 = 11.9321
##
```
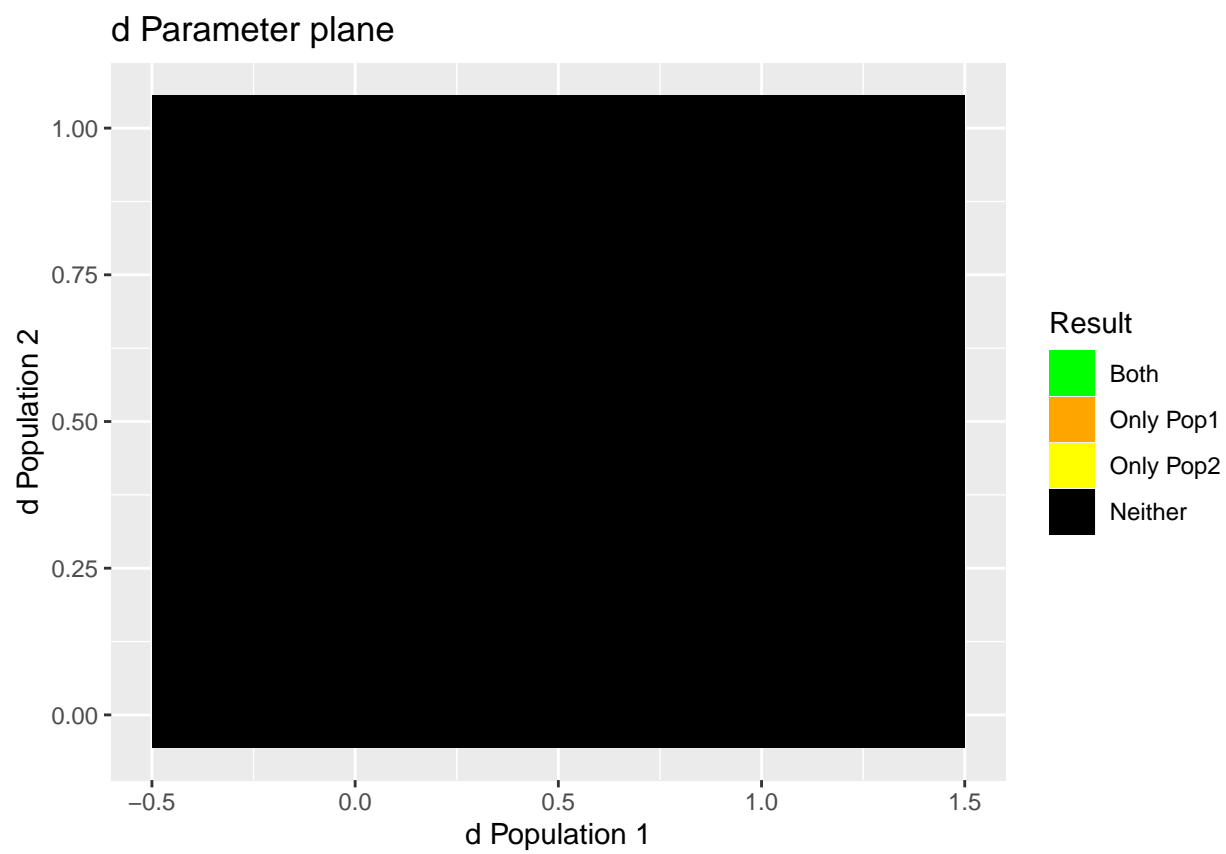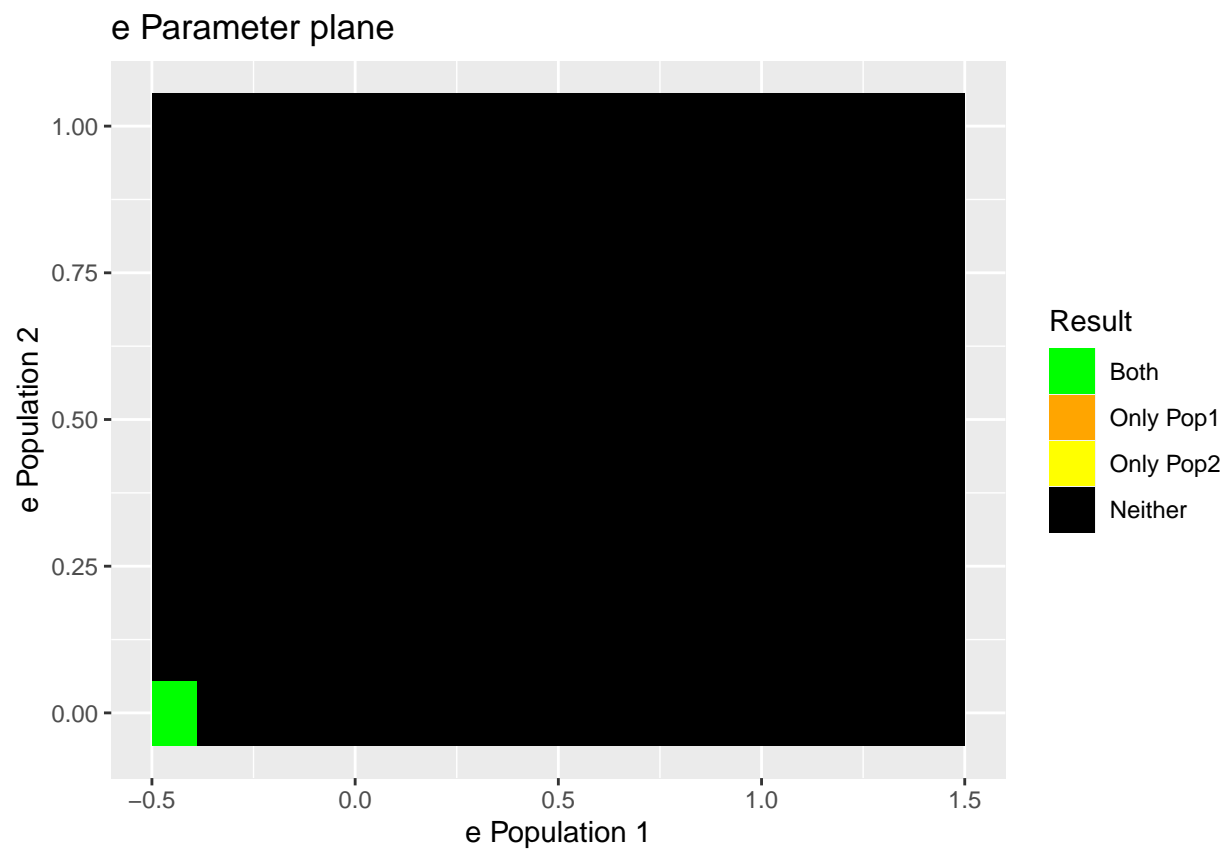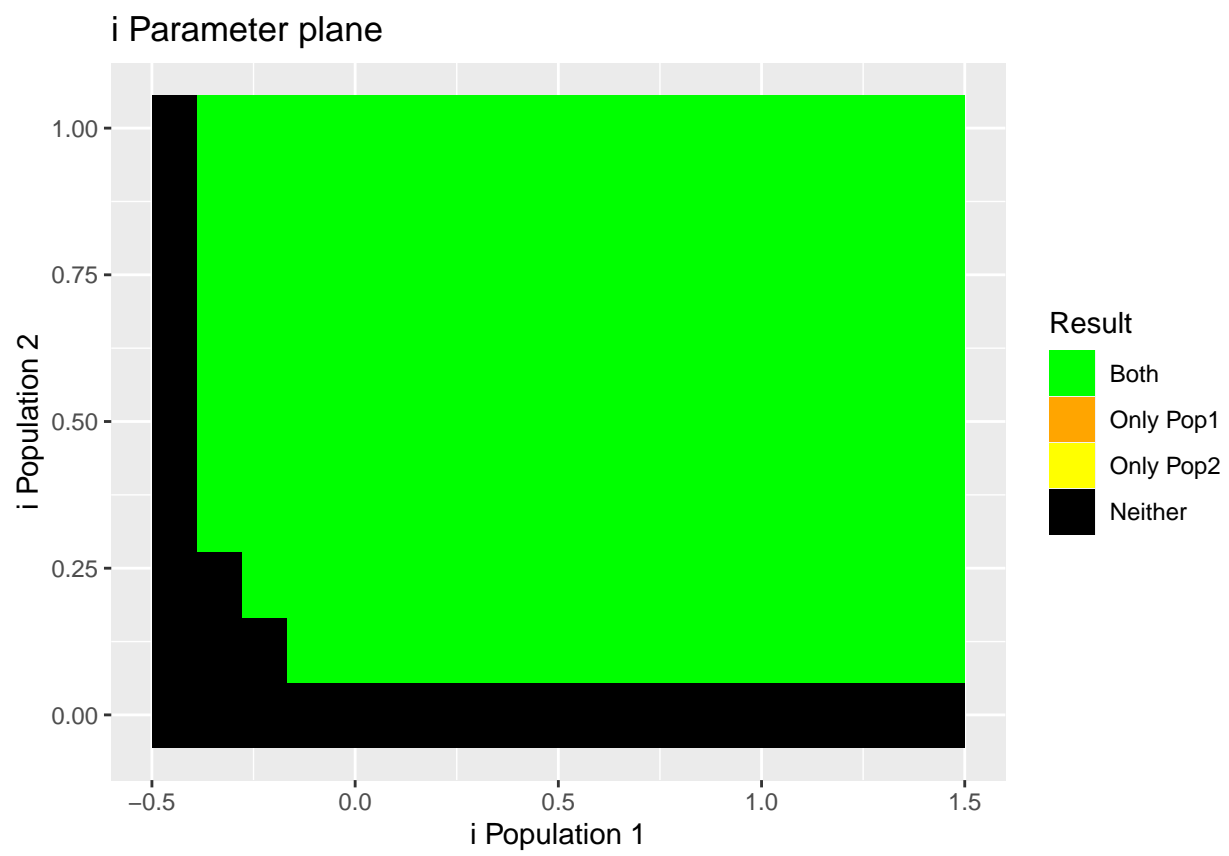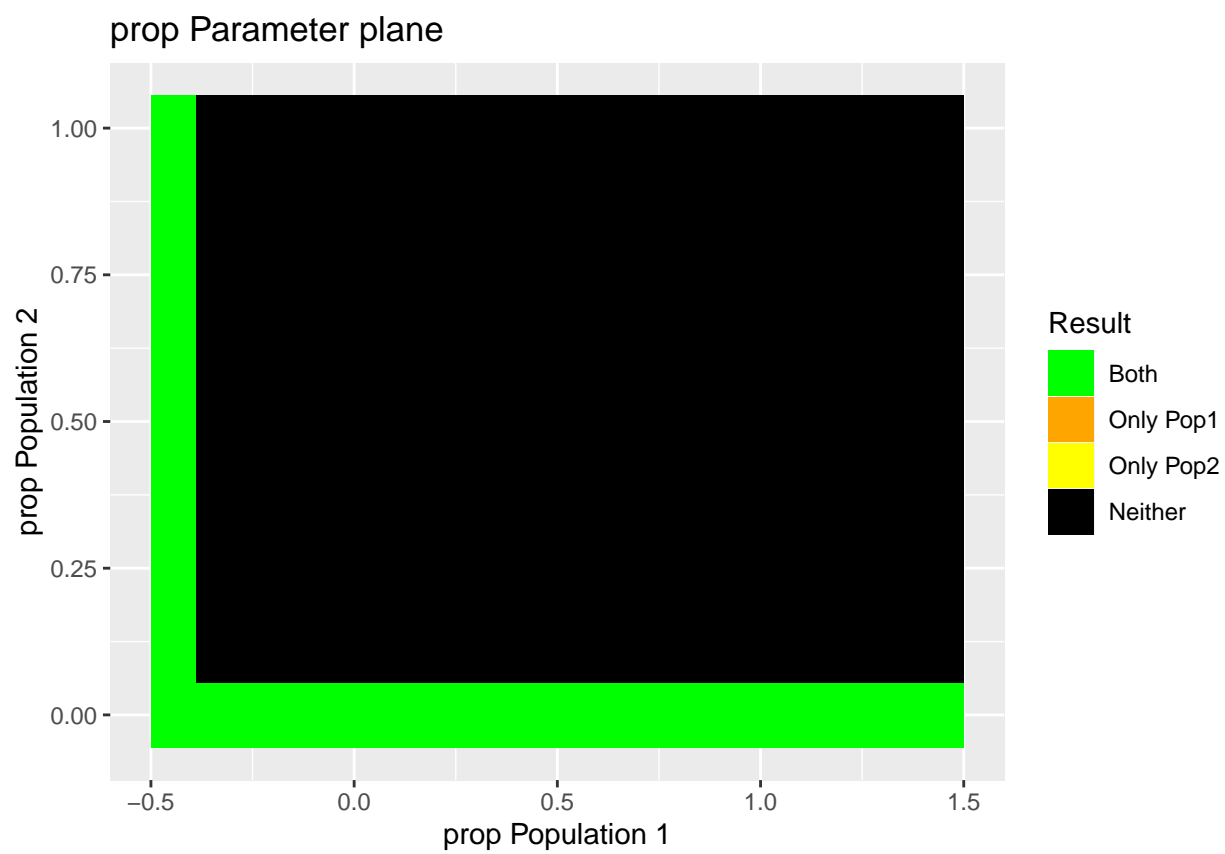
Figure 29: d population planes

Figure 30: e population planes

Figure 31: i population planes

Figure 32: prop population planes