```
>> sys = linmod('MMPS_with_DFIG')
Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not
connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details
about the loops use the
command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops(bdroot);">Simulink
BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a>
or the command line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug
('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the
Algebraic
loop option in the Diagnostics page of the Configuration Parameters Dialog to "None".
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/         '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'
```

```
'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/      ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/            ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)

Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
```

Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details about the loops use the
command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops(bdroot);">Simulink.BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a>
or the command line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the Algebraic
loop option in the Diagnostics page of the Configuration Parameters Dialog to "None".
> In dlinmod (line 196)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

```
'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)


sys =

             a: [53x53 double]
             b: [53x1 double]
             c: [4x53 double]
             d: [4x1 double]
     StateName: {53x1 cell}
    OutputName: {4x1 cell}
     InputName: {'MMPS_with_DFIG/vref'}
     OperPoint: [1x1 struct]
            Ts: 0

>> Initialising_SMIB_DFIG
>> sys = linmod('MMPS_with_DFIG')
Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
```

Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details about the loops use the command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops(bdroot);">Simulink.BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a> or the command line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the Algebraic loop option in the Diagnostics page of the Configuration Parameters Dialog to "None".
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

```
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/            ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)

Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details
about the loops use the command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops
(bdroot);">Simulink.BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a> or the command
line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug
('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the
Algebraic loop option in the Diagnostics page of the
Configuration Parameters Dialog to "None".
```

```
> In dlinmod (line 196)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/         '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/      ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/            ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'
```

```
'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)


sys =

             a: [53x53 double]
             b: [53x1 double]
             c: [4x53 double]
             d: [4x1 double]
     StateName: {53x1 cell}
    OutputName: {4x1 cell}
     InputName: {'MMPS_with_DFIG/vref'}
     OperPoint: [1x1 struct]
            Ts: 0

>> [A,B,C,D]=linmod('MMPS_with_DFIG')
Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not
connected.
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details
about the loops use the command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops
(bdroot);">Simulink.BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a> or the command
line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug
```

('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the Algebraic loop option in the Diagnostics page of the Configuration Parameters Dialog to "None".
> In checkSingleTaskingSolver (line 30)
  In dlinmod (line 184)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

```
'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)

Warning: Output port 1 of 'MMPS_with_DFIG/DFIG/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
Warning: Output port 2 of 'MMPS_with_DFIG/SMIB/Complex to Magnitude-Angle' is not
connected.
> In dlinmod (line 196)
  In linmod (line 59)
Warning: Block diagram 'MMPS_with_DFIG' contains 2 algebraic loop(s). To see more details
about the loops use the command <a href="matlab:Simulink.BlockDiagram.getAlgebraicLoops
(bdroot);">Simulink.BlockDiagram.getAlgebraicLoops('MMPS_with_DFIG') </a> or the command
line Simulink debugger by typing <a href="matlab:sldebug(bdroot);">sldebug
('MMPS_with_DFIG') </a> in the MATLAB command window. To eliminate this message, set the
Algebraic loop option in the Diagnostics page of the
Configuration Parameters Dialog to "None".
> In dlinmod (line 196)
  In linmod (line 59)
Found algebraic loop containing:
'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain8'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain2'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain1'
```

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ '

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Real-Imag to Complex'

'MMPS_with_DFIG/SMIB/Machine/dq to DQ/Product'

'MMPS_with_DFIG/SMIB/Gain2'

'MMPS_with_DFIG/Gain'

'MMPS_with_DFIG/Add'

'MMPS_with_DFIG/Network/Gain1'

'MMPS_with_DFIG/Network/Sum3'

'MMPS_with_DFIG/SMIB/Gain1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Product1'

'MMPS_with_DFIG/SMIB/Machine/DQ to dq/Complex to Real-Imag'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/Gain7'

'MMPS_with_DFIG/SMIB/Machine/Machine Equations/s_I/ ' (algebraic variable)

Found algebraic loop containing:
'MMPS_with_DFIG/DFIG/Filter/Measure_P/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain5'

'MMPS_with_DFIG/DFIG/B2BC/Add'

'MMPS_with_DFIG/DFIG/B2BC/Gain'

'MMPS_with_DFIG/DFIG/GSC/Add7'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_OL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/Add8'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Gain2'

'MMPS_with_DFIG/DFIG/GSC/GSC_IL1/Sum'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Real-Imag to Complex'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Product'

'MMPS_with_DFIG/DFIG/GSC/MSC_OL8/Complex to Real-Imag'

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product1' (algebraic variable)

'MMPS_with_DFIG/DFIG/Filter/Measure_P/Product' (algebraic variable)

A =

1.0e+03 *

Columns 1 through 16

-0.0096 0.0000 0.0000 0.0000 -0.0066 -0.0002 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0000

0.0000 -0.0096 0.0000 0.0000 -0.0002 -0.0066 -0.0000 -0.0001 0.0000 -0.0000 -0.0000 -0.0000 0.0000 -0.0000 -0.0000 -0.0000

0.0000 0.0000 -0.0096 0.0001 -0.0000 -0.0000 -0.0067 -0.0003 0.0000 0.0000 -0.0000 -0.0000 0.0000 0.0000 -0.0000 -0.0000

0.0000 0.0000 0.0001 -0.0096 -0.0000 -0.0001 -0.0003 -0.0067 0.0000 0.0000 0.0001 -0.0000 0.0000 0.0000 0.0001 -0.0000

-0.0189 -0.0007 -0.0001 -0.0001 -0.0268 0.0041 0.0004 0.0006 0.0002 0.0007 0.0001 0.0003 0.0002 0.0007 0.0001 0.0003

-0.0007 -0.0186 -0.0001 -0.0002 0.0041 -0.0283 0.0008 0.0014 -0.0007 0.0002 0.0001 0.0003 -0.0007 0.0002 0.0001 0.0003

-0.0001 -0.0001 -0.0190 -0.0009 0.0004 0.0007 -0.0261 0.0052 -0.0002 -0.0001 0.0001 0.0008 -0.0002 -0.0001 0.0001 0.0008

-0.0001 -0.0002 -0.0009 -0.0189 0.0005 0.0010 0.0052 -0.0266 -0.0003 -0.0004 -0.0009 0.0002 -0.0003 -0.0004 -0.0009 0.0002

0.0000 0.0000 0.0000 0.0000 -0.0000 -0.0000 -0.0000 -0.0000 -0.0011 0.0000 0.0000 0.0000 0.0009 0.0000 0.0000 0.0000

-0.0000 0.0000 0.0000 0.0000 0.0000 -0.0000 -0.0000 -0.0000 0.0000 -0.0011 0.0000 0.0000 0.0000 0.0009 0.0000 0.0000

-0.0000 -0.0000 0.0000 0.0000 0.0000 0.0000 -0.0000 -0.0000 0.0000 0.0000 -0.0011 0.0000 0.0000 0.0000 0.0009 0.0000

-0.0000 -0.0000 -0.0000 0.0000 0.0000 0.0000 0.0000 -0.0000 0.0000 0.0000 0.0000 -0.0011 0.0000 0.0000 0.0000 0.0009

0.0000 0.0001 0.0000 0.0000 -0.0001 -0.0005 -0.0001 -0.0002 0.0314 0.0012 0.0001 0.0002 -0.0352 0.0012 0.0001 0.0002

-0.0001 0.0000 0.0000 0.0000 0.0006 -0.0001 -0.0001 -0.0003 0.0011 0.0310 0.0002 0.0003 0.0011 -0.0356 0.0002 0.0003

-0.0000 -0.0000 0.0000 0.0001 0.0001 0.0001 -0.0001 -0.0006 0.0001 0.0002 0.0316 0.0014 0.0001 0.0002 -0.0350 0.0014

```
   -0.0000   -0.0000   -0.0001    0.0000    0.0003    0.0003    0.0007   -0.0004
0.0001    0.0003    0.0014    0.0315    0.0001    0.0003    0.0014   -0.0352
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000   -0.0000   -0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000   -0.0000   -0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
   -0.0000   -0.0000   -0.0000   -0.0000    0.0000    0.0000    0.0000    0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
   -0.0000   -0.0000   -0.0000   -0.0000    0.0000    0.0000    0.0000    0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
    0.5547   -0.5768   -0.0692   -0.1090   -3.3280    3.4607    0.4150    0.6543
3.2119   -0.7075   -0.0439    0.0462    3.2119   -0.7075   -0.0439    0.0462
   -0.4413    0.9192   -0.1074   -0.1776    2.6478   -5.5149    0.6442    1.0654
-1.5864    2.8915   -0.1309   -0.0220   -1.5864    2.8915   -0.1309   -0.0220
   -0.0233   -0.0658    0.7533   -0.7148    0.1396    0.3947   -4.5196    4.2883
-0.2314   -0.3066    2.3758   -0.9415   -0.2314   -0.3066    2.3758   -0.9415
   -0.0203   -0.0825   -0.5381    1.0659    0.1218    0.4948    3.2287   -6.3956
-0.3884   -0.5454   -2.0079    1.1726   -0.3884   -0.5454   -2.0079    1.1726
   -0.0006    0.0006    0.0001    0.0001    0.0037   -0.0038   -0.0005   -0.0004
-0.0036    0.0008    0.0000   -0.0001   -0.0036    0.0008    0.0000   -0.0001
    0.0005   -0.0010    0.0001    0.0002   -0.0029    0.0061   -0.0007   -0.0012
0.0018   -0.0032    0.0001    0.0000    0.0018   -0.0032    0.0001    0.0000
    0.0000    0.0001   -0.0008    0.0008   -0.0002   -0.0004    0.0050   -0.0048
0.0003    0.0003   -0.0026    0.0010    0.0003    0.0003   -0.0026    0.0010
    0.0000    0.0001    0.0006   -0.0012   -0.0001   -0.0005   -0.0036    0.0074
0.0004    0.0006    0.0022   -0.0013    0.0004    0.0006    0.0022   -0.0013
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000    0.0000    0.0000    0.0000    0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
   -0.0000   -0.0000   -0.0000   -0.0000    0.0000    0.0000    0.0000    0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
```

```
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000   -0.0000   -0.0000
0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000
   -0.0000   -0.0000   -0.0000   -0.0000    0.0000    0.0000    0.0000    0.0000
-0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
    0.0033    0.0005    0.0000   -0.0000   -0.0199   -0.0033   -0.0002    0.0000
-0.0136   -0.0040   -0.0005   -0.0008   -0.0136   -0.0040   -0.0005   -0.0008
    0.0010    0.0025    0.0001    0.0000   -0.0058   -0.0151   -0.0005   -0.0002
-0.0029   -0.0138   -0.0007   -0.0013   -0.0029   -0.0138   -0.0007   -0.0013
    0.0001    0.0002    0.0031    0.0006   -0.0008   -0.0011   -0.0188   -0.0035
-0.0002   -0.0005   -0.0150   -0.0052   -0.0002   -0.0005   -0.0150   -0.0052
    0.0002    0.0003    0.0011    0.0022   -0.0013   -0.0018   -0.0064   -0.0134
-0.0002   -0.0007   -0.0042   -0.0164   -0.0002   -0.0007   -0.0042   -0.0164

  Columns 17 through 32

   -0.0003    0.0002    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0003   -0.0005    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0000    0.0001   -0.0004    0.0003    0.0000    0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0001    0.0001    0.0004   -0.0006    0.0000    0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0052   -0.0039   -0.0003   -0.0003   -0.0000   -0.0000   -0.0001   -0.0001
0         0         0         0         0         0         0         0
   -0.0051    0.0084   -0.0007   -0.0008   -0.0000   -0.0000   -0.0001   -0.0001
0         0         0         0         0         0         0         0
   -0.0006   -0.0010    0.0069   -0.0048   -0.0000   -0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0009   -0.0016   -0.0063    0.0097   -0.0000   -0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0001    0.0001    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
    0.0000   -0.0001    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000
```

```
0         0         0         0         0         0         0         0
   -0.0000    0.0000   -0.0001    0.0001    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0000   -0.0000    0.0000   -0.0000    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0036    0.0019    0.0003    0.0004    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
    0.0008   -0.0031    0.0003    0.0006    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0000    0.0001   -0.0026    0.0023    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0001   -0.0000    0.0010   -0.0011    0.0000    0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0    0.3770         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0    0.3770         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0    0.3770         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0    0.3770
    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0000    0.0000    0.0000    0.0000   -0.0000   -0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
    7.2967   -4.6423   -0.4747   -0.6659   -0.0378   -0.0378   -0.0277   -0.0277
-0.6281         0         0         0         0         0         0         0
   -4.6322    9.3360   -0.8138   -1.1934   -0.0674   -0.0674   -0.0347   -0.0347
0   -0.6281         0         0         0         0         0         0         0
   -0.4231   -0.7777    7.4938   -5.7621   -0.0133   -0.0133   -0.0008   -0.0008
0         0   -0.6281         0         0         0         0         0         0
   -0.5949   -1.1518   -5.7337    8.3328   -0.0213   -0.0213    0.0020    0.0020
0         0         0   -0.6281         0         0         0         0         0
   -0.0081    0.0052    0.0005    0.0007    0.0000    0.0000    0.0000    0.0000
0.0007         0         0         0         0         0         0         0
    0.0051   -0.0104    0.0009    0.0013    0.0001    0.0001    0.0000    0.0000
0    0.0007         0         0         0         0         0         0         0
    0.0005    0.0009   -0.0083    0.0064    0.0000    0.0000    0.0000    0.0000
0         0    0.0007         0         0         0         0         0         0
    0.0007    0.0013    0.0064   -0.0093    0.0000    0.0000   -0.0000   -0.0000
0         0         0    0.0007         0         0         0         0         0
         0         0         0         0   -0.0002         0   -0.0000         0
0         0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
```

```
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000    0.0000   -0.0000
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000
0         0         0         0         0         0         0         0
         0         0         0         0    0.0000         0   -0.0002
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0   -0.0001   -0.0003   -0.0000   -0.0000
0         0         0         0         0         0         0         0
         0         0         0         0   -0.0003         0   -0.0000
0         0         0         0         0         0         0         0
         0         0         0         0         0    0.0000         0   -0.0000
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
    0.0000    0.0000    0.0000    0.0000   -0.0000    0.0000   -0.0000    0.0000
0         0         0         0         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000   -0.0000    0.0000
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0   -0.0000         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0   -0.0000
0         0         0         0         0         0         0         0
    0.0040   -0.0008   -0.0004   -0.0009   -0.0000   -0.0000    0.0001    0.0004
0         0         0         0         0         0         0         0
    0.0023    0.0018   -0.0004   -0.0012   -0.0001   -0.0001    0.0001    0.0004
0         0         0         0         0         0         0         0
    0.0007    0.0007    0.0007   -0.0020   -0.0000   -0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0011    0.0013    0.0013   -0.0037    0.0000    0.0000    0.0000    0.0000
0         0         0         0         0         0         0         0

  Columns 33 through 48

         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
```

```
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
    0.0000   -0.0000         0    0.0000   -0.0000   -0.0000    0.0000    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0    0.0000         0         0    0.0000
    0.0000   -0.0000         0    0.0000    0.0000    0.0000   -0.0000    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0    0.0000         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0    
```

```
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0   -0.0002         0    0.0000   -0.0001         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0   -0.0039         0         0         0         0    0.0039
0         0         0         0         0         0    0.0013         0
   -0.0000    0.0000         0   -0.0000    0.0000   -0.0000    0.0000
0         0         0         0         0         0         0         0
    0.0000   -0.0000         0   -0.0000   -0.0000   -0.0000    0.0000
0         0         0         0         0         0         0         0
         0         0         0    0.0001    0.0000         0   -0.0002
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0    0.0004         0         0         0         0   -0.0005
0         0         0         0         0         0   -0.0001         0
         0         0         0    0.0000   -0.0000         0         0
0    0.0003         0         0    0.0216    0.0025         0         0
         0         0         0    0.0000   -0.0001         0         0
0         0         0         0    0.0721    0.0082         0         0
         0         0         0         0         0         0         0
0         0         0    0.0003         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0    0.0000   -0.0000         0         0
0.0000    0.0000   -0.0000   -0.0000    0.0000    0.0000         0   -0.0000
         0         0         0    0.0000   -0.0000         0         0
0.0000    0.0000    0.0000    0.0000    0.0000   -0.0000         0         0
         0         0   -0.0942         0         0         0         0    0.0942
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0    0.0000         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0    0.0000         0    0.0000
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
```

Columns 49 through 53

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0.0250	0	0	0
0	0	0.0250	0	0
0	0	0	0.0250	0
0	0	0	0	0.0250
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0.0000	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
-0.0000	0	0	0	0

```
         0         0         0         0         0
   -0.0000         0         0         0         0
         0         0         0         0         0
         0   -0.0500         0         0         0
         0         0   -0.0500         0         0
         0         0         0   -0.0500         0
         0         0         0         0   -0.0500
```

```
B =

     0
     0
     0
```

```
     0
     0
     0
     0
     0
     0
     0
     0
     0
     0
     0
    50
    50
    50
    50

C =

  Columns 1 through 16

   -0.6163    0.6409    0.0768    0.1212    3.6978   -3.8452   -0.4611   -0.7270
-3.5688    0.7861    0.0488   -0.0514   -3.5688    0.7861    0.0488   -0.0514
    0.4903   -1.0213    0.1193    0.1973   -2.9419    6.1277   -0.7157   -1.1836
1.7626   -3.2128    0.1455    0.0244    1.7626   -3.2128    0.1455    0.0244
    0.0259    0.0731   -0.8370    0.7942   -0.1551   -0.4386    5.0218   -4.7654
0.2571    0.3406   -2.6398    1.0461    0.2571    0.3406   -2.6398    1.0461
    0.0226    0.0916    0.5979   -1.1844   -0.1353   -0.5498   -3.5874    7.1062
0.4316    0.6060    2.2310   -1.3029    0.4316    0.6060    2.2310   -1.3029

  Columns 17 through 32

   -8.1075    5.1581    0.5275    0.7398    0.0421    0.0421    0.0307    0.0307
0.6923         0         0         0         0         0         0         0
    5.1469  -10.3733    0.9042    1.3260    0.0749    0.0749    0.0385    0.0385
0    0.6923         0         0         0         0         0         0
    0.4702    0.8641   -8.3264    6.4023    0.0147    0.0147    0.0009    0.0009
0         0    0.6923         0         0         0         0         0
    0.6610    1.2798    6.3708   -9.2587    0.0237    0.0237   -0.0022   -0.0022
0         0         0    0.6923         0         0         0         0

  Columns 33 through 48

         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
         0         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0
```

```
         0         0         0         0         0         0         0
0         0         0         0         0         0         0         0

  Columns 49 through 53

         0         0         0         0         0
         0         0         0         0         0
         0         0         0         0         0
         0         0         0         0         0


D =

     0
     0
     0
     0

>>
```