

The model parameters include the mass M , surface pressure $P(M)$, and the surface temperature $T(M)$

Specify model parameters and boundary conditions

The radius R , which is the guess for the planet's total radius, is chosen as the midpoint of the current radius search bracket

Set trial radius R

The ODEs contain the rest of the information about the layered structure of the planet, the water EOS and the temperature profile

Evaluate ODEs with RK4 integration

Structural model

Check value of r at $m=0$

R was too small

R was too large

$r < 0$

$0 < r < 1 \text{ km}$

$r > 1 \text{ km}$

Remove lower half of radius search bracket

Model converged

Remove upper half of radius search bracket

