Solve the Grad-Shafranov Equation

$$R^2 \nabla \cdot \frac{1}{R^2} \nabla \Psi + \mu_0 R^2 \frac{dp}{d\Psi} + g \frac{dg}{d\Psi} = 0$$

$$g(R,Z) = g(\Psi) = R\left(\frac{\partial A_R}{\partial Z} - \frac{\partial A_Z}{\partial R}\right)$$

$$p = p(\Psi)$$

Algorithm (GS)

Outer loop
{
  $\Psi_b = \mathrm{BDY}(\Psi)$
  Test convergence
  Inner loop
  {
    $J_\phi = \mathrm{RHS}(\Psi^n)$
    $\widetilde{\Psi^n} = \mathrm{ES}(J_\phi, \Psi_b)$
    Test convergence
    $\Psi^{n+1} = \mathrm{IT}(\widetilde{\Psi^n}, \Psi^n)$
    n++
  }
  m++
}

Structure