1 stepped pressure equilibrium code : mp00ab

1. Solves Beltrami linear system (for given helicity multiplier and poloidal flux), assuming dense matrix; planned redundancy; and returns an error function.

2. +`Lposdef=T`, the solution is provided by `F04ASF`, which assumes the matrix is symmetric positive-definite;

3. if `Lposdef=F`, the solution is provided by `F04ATF`;

4. The solution vector is "unpacked" by `up00aa`. The unpacking routine must be consistent with the "packing" description given in `global`.

1.0.1 error function

1. This routine returns an "error-function", $\mathbf{F}(\mu, \delta\psi_p)$, defined as follows:

   (a) if `Lconstraint.eq.0`, $\mathbf{F} = 0$.

   (b) if `Lconstraint.eq.1`, $\mathbf{F}(\mu, \delta\psi_p) = (\iota_{inn} - (p_{l-l} + \gamma p_{r-l})/(q_{l-l} + \gamma q_{r-l}), \iota_{out} - (p_l + \gamma p_r)/(q_l + \gamma q_r))$, where, given the Beltrami field, the transform on the inner, ι_{inn}, and outer, ι_{out}, adjacent interfaces is computed by constructing straight-field line coordinates; the integers p_l, q_l, p_r and q_r are given on input; and $\gamma = (1 + \sqrt{5})/2$ is the golden mean.

   (c) if `Lconstraint.eq.2`, $\mathbf{F}(\mu) = \int_l \mathbf{A} \cdot \mathbf{B}\, dv - \mathcal{K}_l$, where $\mathcal{K}_l$ is the helicity given on input.

mp00ab.h last modified on 2012-04-12 ;