

Progress Report

- 1 Free-boundary healing (old method)
- 2 Dynamical Healing progress

Free Boundary Healing (old method)

- 1 Method is to vary coils geometry, run PIES with **fixed number of iterations** and find island minimizing coil set.
- 2 Presently being applied to 0227a1 coils – with Ron Hatcher.
- 3 Same algorithm being extended to use any magnetic field (not PIES) to study symmetry breaking coil placement errors – with Art Brooks.
- 4 Same algorithm already used to vary trim coil currents to reduce island widths.

Dynamical Healing and other work

- 1 Dynamical healing, which makes small changes to a given coil set at each PIES iteration, is presently under construction.

Thus far ...

- rational surfaces Fourier decomposed;
- resonant component of coil field and total field calculated;
- presently building coupling matrix;

Remains to implement Newton procedure.

- 2 Improvements made to island width estimate used by PIES in both speed and accuracy.