

$$\begin{bmatrix}
 \left[\begin{array}{c} \\ \end{array} \right] & \left[\begin{array}{c} \\ \end{array} \right] & & & \\
 \left[\begin{array}{c} \\ \end{array} \right] & \left[\begin{array}{c} \\ \end{array} \right] & \left[\begin{array}{c} \\ \end{array} \right] & & \\
 & & \left[\begin{array}{c} \\ \end{array} \right] & \left[\begin{array}{c} \\ \end{array} \right] & \\
 & & & \left[\begin{array}{c} \\ \end{array} \right] & \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] & & & & \left[\begin{array}{c} \\ \end{array} \right]
 \end{bmatrix}
 \times
 \begin{bmatrix}
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right]
 \end{bmatrix}
 =
 \begin{bmatrix}
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right] \\
 \left[\begin{array}{c} \\ \end{array} \right]
 \end{bmatrix}
 \begin{bmatrix}
 \vdots \\
 p'_{yy}{}^{j-1} \\
 p^j \\
 p_x^j \\
 p_y^j \\
 p_{xx}^j \\
 p_{xy}^j \\
 p_{yy}^j \\
 p'^j \\
 p'_x{}^j \\
 p'_y{}^j \\
 p'_{xx}{}^j \\
 p'_{xy}{}^j \\
 p'_{yy}{}^j \\
 p^{j+1} \\
 \vdots
 \end{bmatrix}$$

- Only diagonal elements in each submatrix used in toroidal solve
- Both p and p' should be solved together, along with p and p' of neighboring planes
- Fortran call is in time_step_split.f90
 - Line 1120: call newsolve(s9_mat, temp, jer)
 - "temp" is RHS going in, solution for "p" coming out
 - Matrix can be output if CJ_MATRIX_DUMP is defined