

THE FOLLOWING "ROW-SHIFTING" METHOD IS BETTER THAN THE ABOVE EPSILON METHOD.

AGAIN LET

$$p(s) = 3s^4 + 6s^3 + 2s^2 + 4s + 5$$

$$\Rightarrow \begin{array}{l|ccc} s^4 & 3 & 2 & 5 \\ s^3 & 6 & 4 & \\ s^2 & \underline{0} & 5 & \\ s^1 & & & \\ s^0 & & & \end{array}$$

s^2 row is problematic. REPLACE IT WITH THE ORIGINAL row ADDED TO $(-1)^n$ TIMES THE row LEFT SHIFTED n TIMES UNTIL ALL ZEROS DISAPPEAR.

IN THE ABOVE EXAMPLE:

ORIGINAL row: 0 5

$(-1)^n \times$ SHIFTED row: -5 0

SUM: -5 5

THE ABOVE ROUTH ARRAY NOW BECOMES

$$\begin{array}{l|ccc} s^4 & 3 & 2 & 5 \\ s^3 & 6 & 4 & \\ s^2 & -5 & 5 & \\ s^1 & +10 & & \\ s^0 & 5 & & \end{array}$$

\Rightarrow 2 SIGN CHANGES