

Gradient de pression dans ROMS

Routine prsgrd.F

from k=1 to N-1

$$dZ_k = zr_{k+1} - zr_k$$

$$dR_k = \rho_{k+1} - \rho_k$$

$$dZ_N = dZ_{N-1}$$

$$dZ_0 = dZ_1$$

$$dR_N = dR_{N-1}$$

$$dR_0 = dR_1$$

from k=N to 1

$$dZ_k = \frac{2 * dZ_k * dZ_{k-1}}{dZ_k + dZ_{k-1}}$$

if $(dR_k * dR_{k-1}) > 0$ then

$$dR_k = \frac{2 * dR_k * dR_{k-1}}{dR_k + dR_{k-1}}$$

else

$$dR_k = 0$$

$$P_N = g * zw_N + \frac{g}{\rho_0} \left[\rho_N + \frac{0.5 * (\rho_N - \rho_{N-1}) * (zw_N - zr_N)}{zr_N - zr_{N-1}} \right] * (zw_N - zr_N)$$

from k=N-1 to 1

$$P_k = P_{k+1} + \frac{g}{2\rho_0} \left[(\rho_{k+1} + \rho_k) * (zr_{k+1} - zr_k) - \frac{1}{5} \left[(dR_{k+1} - dR_k) * \left(zr_{k+1} - zr_k - \frac{1}{12} (dZ_{k+1} + dZ_k) \right) - (dZ_{k+1} - dZ_k) * \left(\rho_{k+1} - \rho_k - \frac{1}{12} (dR_{k+1} + dR_k) \right) \right] \right]$$

