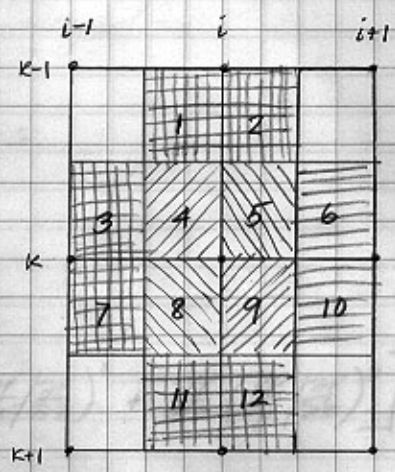


Example: MOM Grid

discretize  $\left( \frac{\partial T}{\partial x} \frac{\partial \rho}{\partial z} - \frac{\partial T}{\partial z} \frac{\partial \rho}{\partial x} \right)^2$

Quarter-Cell  
(n)

Triads



- 1  $(i, k), (i, k-1), (i-1, k-1)$
- 2  $(i, k), (i, k-1), (i+1, k-1)$
- 3  $(i, k), (i-1, k), (i-1, k-1)$
- 4  $(i-1, k), (i, k), (i, k-1)$
- 5  $(i+1, k), (i, k), (i, k-1)$
- 6  $(i, k), (i+1, k), (i+1, k-1)$
- 7  $(i, k), (i-1, k), (i-1, k+1)$
- 8  $(i-1, k), (i, k), (i, k+1)$
- 9  $(i+1, k), (i, k), (i, k+1)$
- 10  $(i, k), (i+1, k), (i+1, k)$
- 11  $(i, k), (i, k+1), (i-1, k+1)$
- 12  $(i, k), (i, k+1), (i+1, k+1)$

$$F^{(k+z)} = -\frac{1}{2} \sum_{i,k} \sum_{n=1}^{12} A(n) V(n) \frac{[\partial_x T^{(n)} \partial_z \rho^{(n)} - \partial_z T^{(n)} \partial_x \rho^{(n)}]^2}{(\nabla \rho^{(n)})^2}$$

$$\delta_x T_{i-1} = \frac{T_i - T_{i-1}}{\Delta x_{i-1}^u}$$

$$\delta_x T_i = \frac{T_{i+1} - T_i}{\Delta x_i^u}$$

$$\delta_z T_k = \frac{T_k - T_{k+1}}{\Delta z_k^w}$$

$$\delta_z T_{k-1} = \frac{T_{k-1} - T_k}{\Delta z_{k-1}^w}$$

$\partial_x T^{(1)}$	$\delta_x T_{i-1, k-1}$	$\partial_z T^{(1)}$	$\delta_z T_{i, k-1}$
$\partial_x T^{(2)}$	$\delta_x T_{i, k-1}$	$\partial_z T^{(2)}$	$\delta_z T_{i, k-1}$
$\partial_x T^{(3)}$	$\delta_x T_{i-1, k}$	$\partial_z T^{(3)}$	$\delta_z T_{i-1, k-1}$
$\partial_x T^{(4)}$	$\delta_x T_{i, k}$	$\partial_z T^{(4)}$	$\delta_z T_{i, k-1}$
$\partial_x T^{(5)}$	$\delta_x T_{i, k}$	$\partial_z T^{(5)}$	$\delta_z T_{i, k-1}$
$\partial_x T^{(6)}$	$\delta_x T_{i+1, k}$	$\partial_z T^{(6)}$	$\delta_z T_{i+1, k-1}$
$\partial_x T^{(7)}$	$\delta_x T_{i-1, k}$	$\partial_z T^{(7)}$	$\delta_z T_{i-1, k}$
$\partial_x T^{(8)}$	$\delta_x T_{i-1, k}$	$\partial_z T^{(8)}$	$\delta_z T_{i, k}$
$\partial_x T^{(9)}$	$\delta_x T_{i, k}$	$\partial_z T^{(9)}$	$\delta_z T_{i, k}$
$\partial_x T^{(10)}$	$\delta_x T_{i, k}$	$\partial_z T^{(10)}$	$\delta_z T_{i, k}$
$\partial_x T^{(11)}$	$\delta_x T_{i-1, k+1}$	$\partial_z T^{(11)}$	$\delta_z T_{i-1, k}$
$\partial_x T^{(12)}$	$\delta_x T_{i, k+1}$	$\partial_z T^{(12)}$	$\delta_z T_{i, k}$