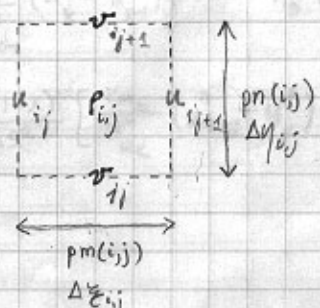
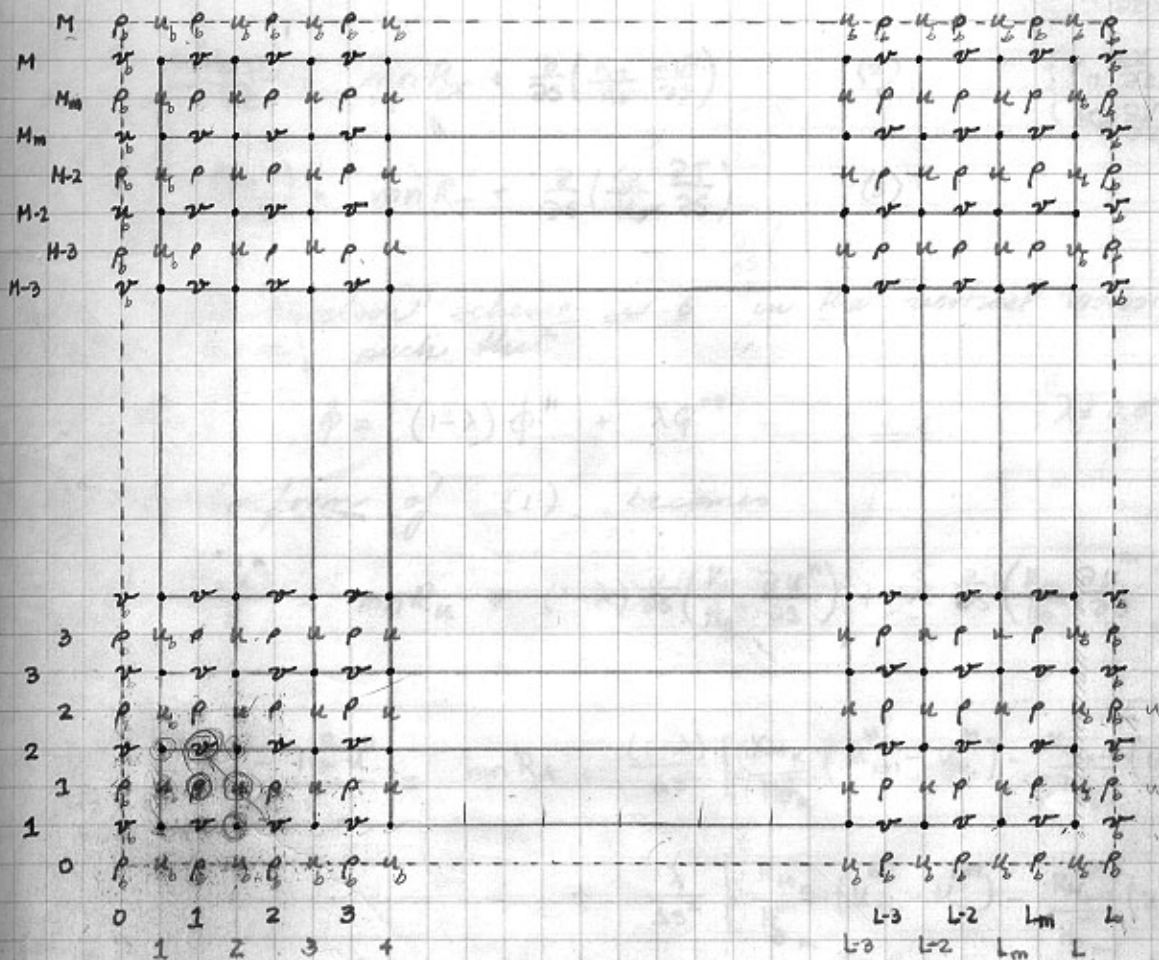


Horizontal Staggered Grid



$$\Delta \xi_{ij}^u = \frac{1}{2} (\Delta \xi_{i,j}^p + \Delta \xi_{i,j}^v)$$

$$\Delta \eta_{ij}^u = \frac{1}{2} (\Delta \eta_{i,j}^p + \Delta \eta_{i,j}^v)$$

$$\Delta \xi_{ij}^v = \frac{1}{2} (\Delta \xi_{i,j}^p + \Delta \xi_{i,j}^u)$$

$$\Delta \eta_{ij}^v = \frac{1}{2} (\Delta \eta_{i,j}^p + \Delta \eta_{i,j}^u)$$