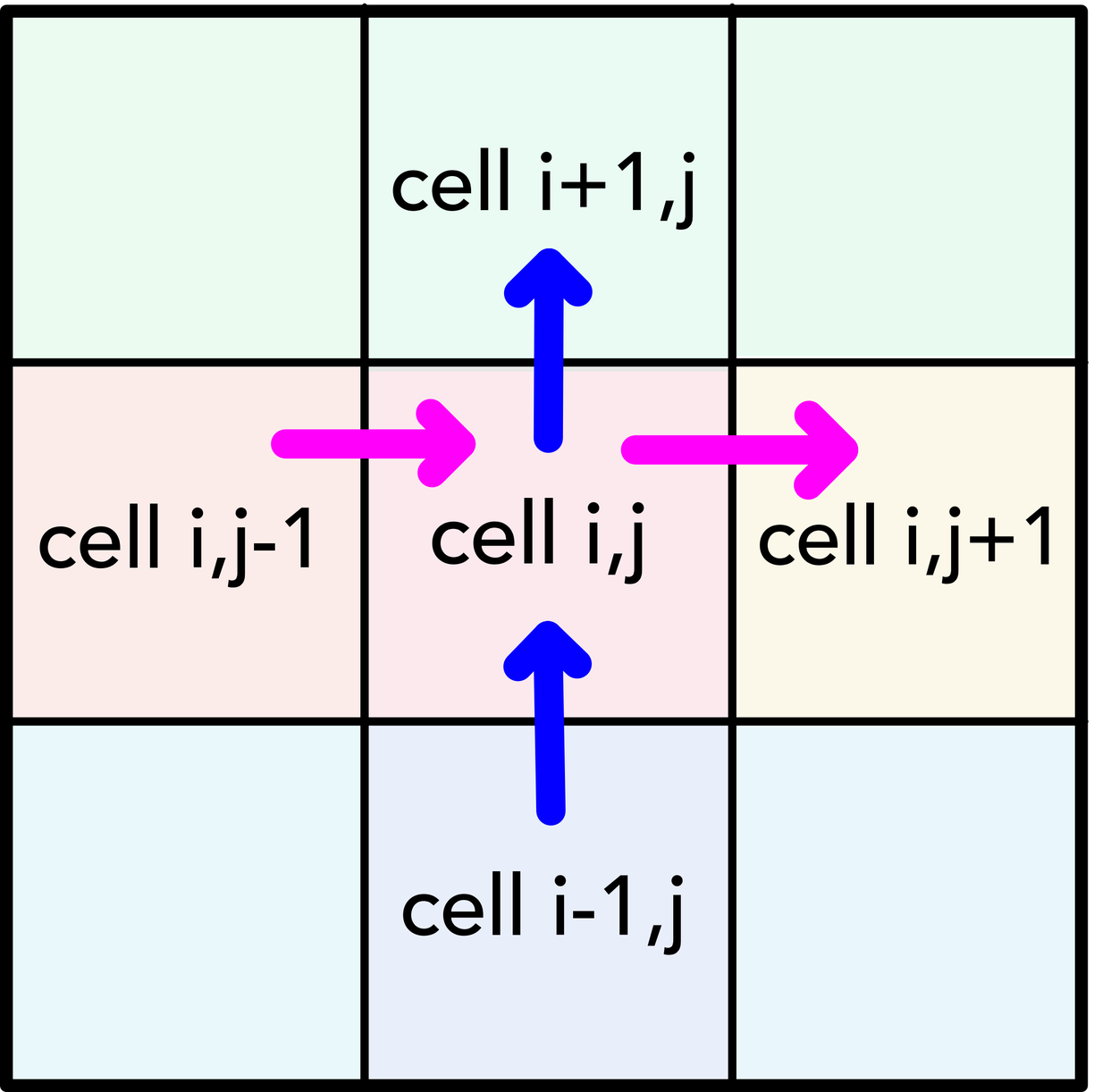

2 augmented 1D problems

simple splitting idea:
account for one dimension after the other, e.g. along x

$$\partial_t \begin{pmatrix} \rho \\ \rho u \\ \rho v \\ \rho e \end{pmatrix} = -\partial_x \begin{pmatrix} \rho u \\ \rho u^2 + P \\ u \cdot \rho v \\ u \cdot (\rho e + P) \end{pmatrix}$$

flux of y-momentum along x

The Euler equation is an advection equation.
(no diffusive term as in Navier-Stokes)