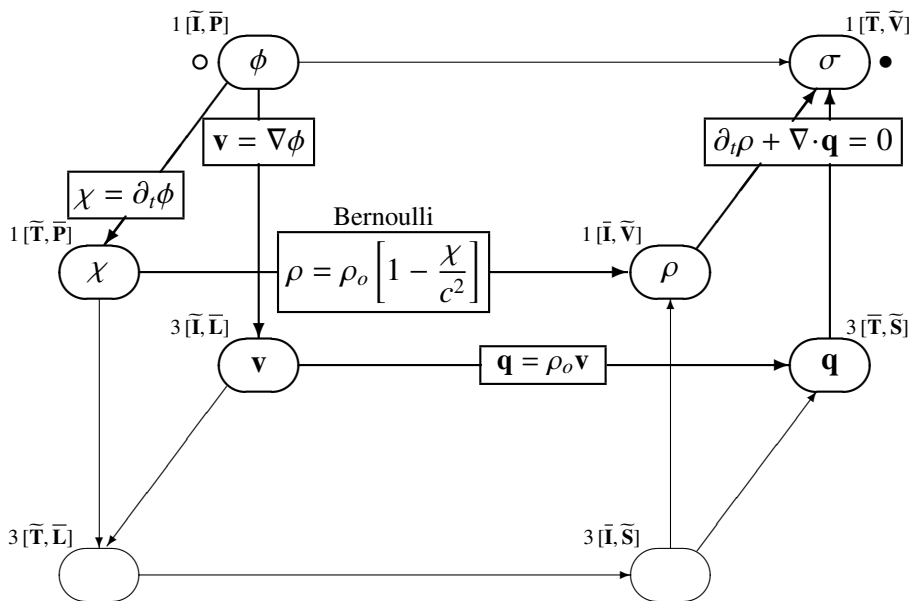


Acoustics in fluids

fluid: perfect, barotropic
flow: irrotational, small velocities

configuration variables
inner space orientation
outer time orientation
intervals instants

source variables
outer space orientation
inner time orientation
intervals instants



D'Alembert: $\frac{1}{c^2} \frac{\partial^2 \phi}{\partial t^2} - \nabla^2 \phi = 0$ $c \triangleq \sqrt{\gamma \frac{p_0}{\rho_0}}$

ϕ kinetic potential σ mass source
 \mathbf{v} velocity ρ mass density
 χ no known name \mathbf{q} mass current density

ρ_0 rest mass density
 p_0 static pressure
 c sound speed
 γ index of the polytropic

