Navier–Stokes Equations

The rate of change of momentum in a volume element

$= \sum$ *the momentum fluxes entering the volume element*

$- \sum$ *the momentum fluxes exiting the volume element*

$+ \sum$ *the shear and normal stresses acting on the volume element*

$+ \sum$ *the forces acting on the mass of the volume element.*

Navier–Stokes Equations

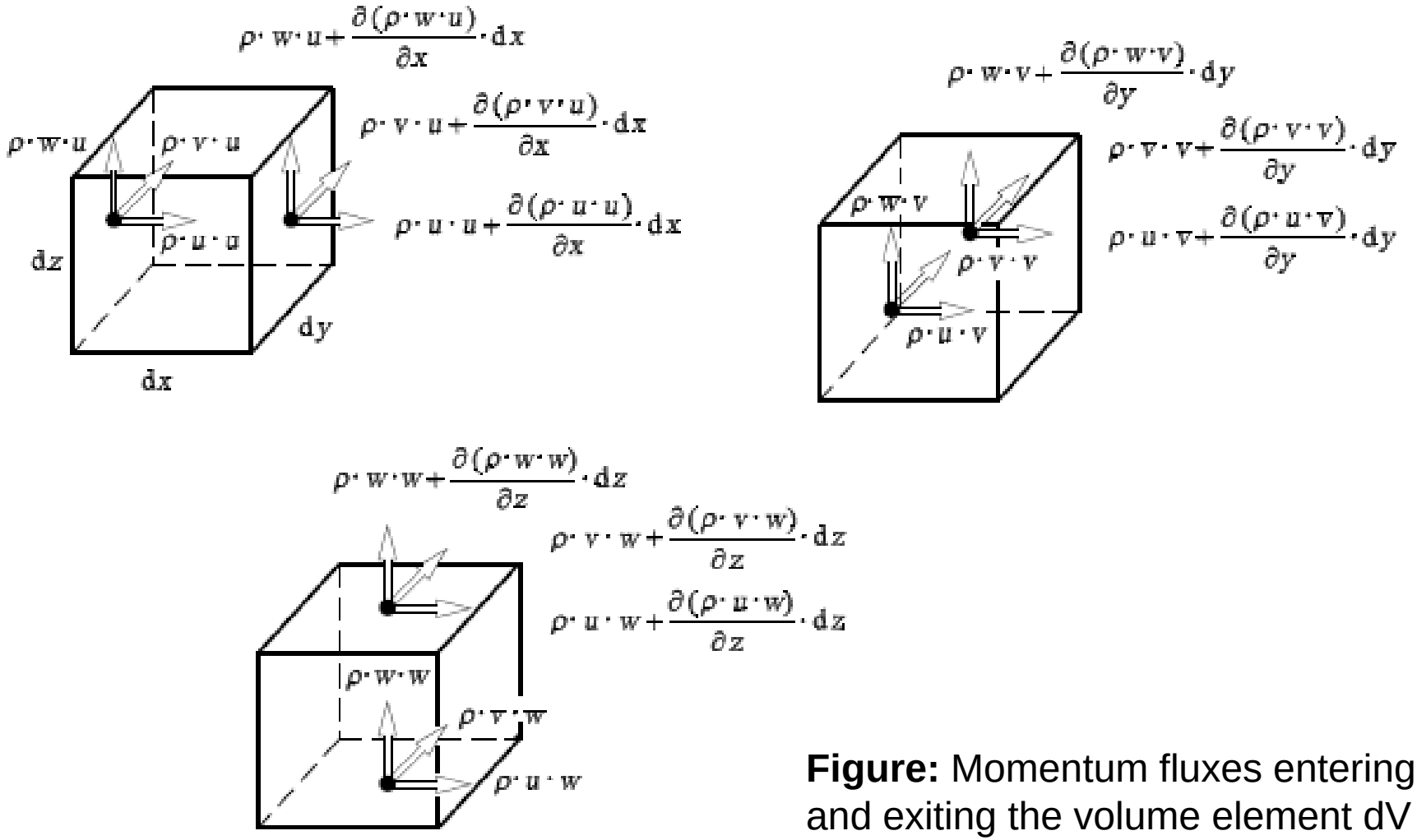

Figure: Momentum fluxes entering and exiting the volume element dV

Navier–Stokes Equations

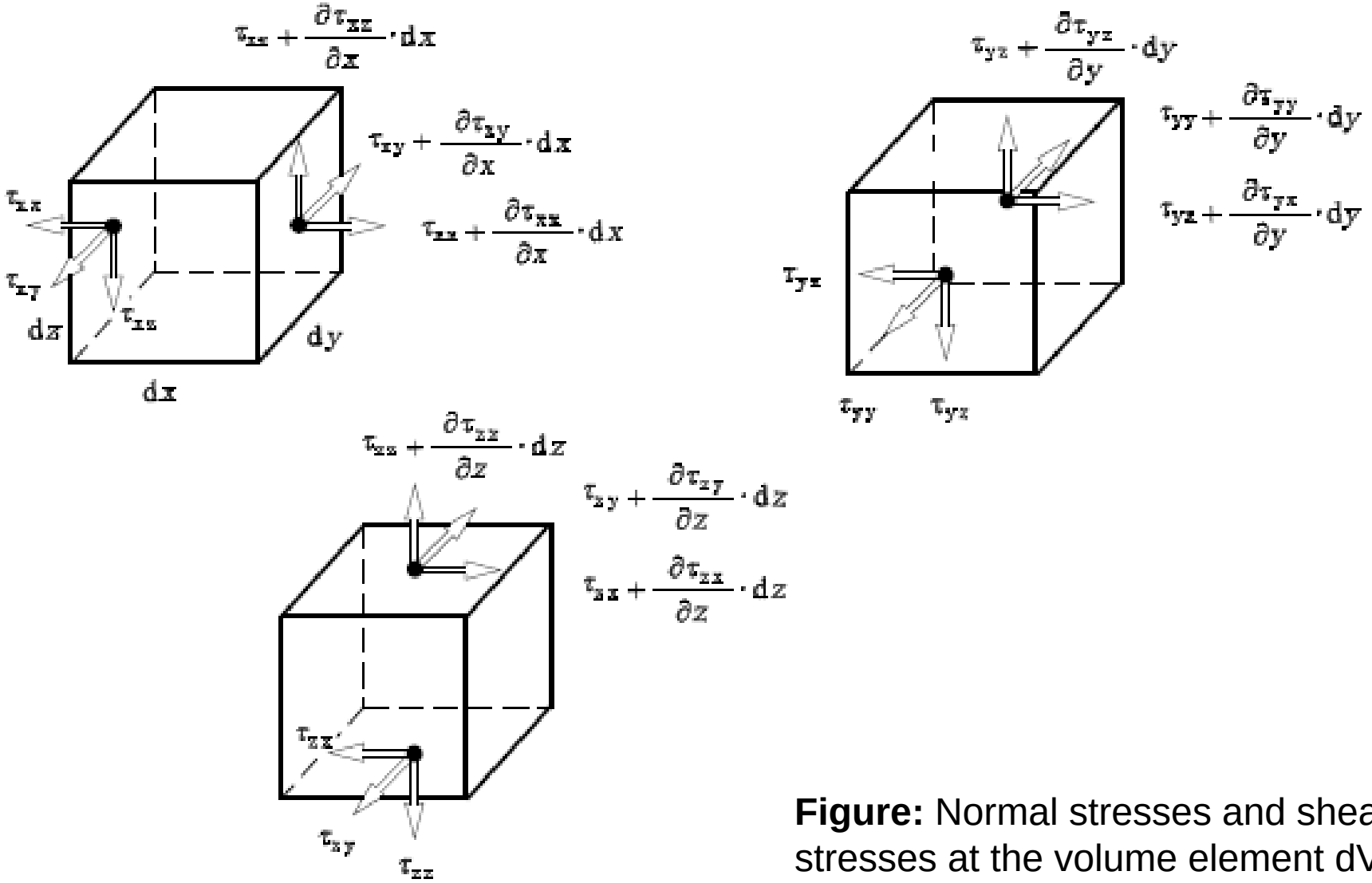

Figure: Normal stresses and shear stresses at the volume element dV