Inviscid flow

@wikipedia

Fluid flow which is not subjected to direct influence of the fluid viscosity (except for the indirect influence of contact forces, see below).

In this case Navier-Stokes fluid flow momentum equation simplifies to Eauler fluid flow momentum equation.

This flow regime happens for high Reynolds numbers $\mathrm{Re} \gg 1$, which originates from:

low-viscosity fluids	high velocities u	large distance to solid boundaries restricting the flow L

The Reynolds numbers should not necessarily to be very high to induce an inviscid flow and many a laminar flows $1 \ll \mathrm{Re} \ll 2,000$ behave as inviscid.]

This makes Eauler fluid flow momentum equation a very popular modelling tool in Fluid Dynamics.

In many practical applications the fluid viscosity can not be neglected even for low-viscosity fluids.

This happens for example, when fluid flow is happening close to solid boundaries which interaction (a friction) with the fluid depends substantially on fluid viscosity.

These effects can be accounted in inviscid flow model through the impact of dissipative contact forces.

See also

Physics / Mechanics / Continuum mechanics / Fluid Mechanics / Fluid Dynamics / Fluid flow

[Navier-Stokes fluid flow momentum equation] [Eauler fluid flow momentum equation]