

Thresholds between time-local well-posedness and ill-posedness for incompressible viscous or inviscid flows are clarified. They are characterized by a regularity of function spaces for initial data. For ill-posedness theorem for the Navier-Stokes equations, the norm-inflation argument is used. On the Euler equations, shear flows are discussed. Besides, for such initial data, time-global unique smooth solutions are obtained. A key point is the annihilation of pressure terms by the structure of initial data. So, the maximum principle can be applied to the velocity to derive a priori estimates.