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## Kelvin-Helmholtz instability in viscous warm dense matter

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In plasmas generated by ion or laser beams, often different layers do not move with the same velocity. Under such conditions, the plasma may become unstable. One of the most important instabilities that occurs in a fluid with a velocity gradient which is normal to the plasma flow is the Kelvin-Helmholtz instability (KHI). If the velocity gradient is, moreover, directed parallel to the gravity force, the KHI is nothing else than a Rayleigh-Taylor instability in a dynamical system.

In the present model, the KHI is considered for a system with shear viscosity neglected in other available theoretical works. Conditions are derived for which warm dense matter may be unstable. It is found that, to excite a KHI, it is not necessary to have strong velocity gradients.

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