

Problem Set Zero

1 pt.

Due 1/5

The aim here is to get to know the interests and background of the class.

I) Interests

- a. State your field and research area.
- b. Why did you select the class?
- c. What do you hope to get out of the class?
- d. Name one specific topic you hope to see addressed in the class.

II) Background

Please characterize your degree of familiarity with the topics listed below. It's sufficient to say: "Very Familiar", "Somewhat Familiar", "Unfamiliar".

- Basic hydrodynamics
- Viscous fluids
- Hydro. stability and waves
- MHD basics
- Turbulence
- Mixing length theory, turbulent transport
- Kinetic theory (i.e. Boltzman equation, Chapman–Enskog expansion)
- Vlasov Equation
- Landau damping
- Jeans/Toomre Criterion
- Pattern formation by instability

III) Preparation

Please state if you previously have studied the subjects below. State the UCSD course, if you took it. If you took an equivalent course elsewhere, don't worry about the details.

- (Astrophysical) Fluids (PHYS 239, 216)

- MHD and Plasmas (PHYS 218A, B, etc.)
- Star Formation
- Stellar Structure
- Galaxies (PHYS 226)
- Non-Equilibrium Stat. Mech. (PHYS 210B)
- Hamiltonian Chaos (PHYS 200B, 221A)
- Planetary Physics
- Compact Objects