Abstract: Magnetohydrodynamics (MHD) is the study of the mutual interaction of magnetic fields and flows of electrically conducting fluids. The MHD equations are mathematically interesting and difficult due to their nonlinear coupled relationship between the fluid velocity and the magnetic field. In this talk, I will introduce the MHD equations and discuss their place in fluid mechanics. Then I will present results regarding the behavior of solutions to the MHD equations under different conditions. This talk will be expository in nature and will be accessible to all math graduate students. Background knowledge in the area will not be assumed.

Snacks available!