

AY 220B Star Formation

This course covers the basics of star formation and the transition to planet formation. We begin with a survey of the physical processes that govern star-forming clouds, including magnetohydrodynamic turbulence, gravitational instability, non-ideal MHD effects, and radiative transfer by molecules and dust grains. We then study the star formation process starting and galactic and moving to stellar scales, touching on topics including: star formation laws; molecular cloud formation, evolution, and disruption; collapse, fragmentation, and the origin of the initial mass function; disk accretion and protostellar outflows; pre-main sequence stellar evolution; massive stars and feedback; and the dispersal of disks and the onset of planet formation.

The main texts for astro 220B are:

"Star Formation" by Steve Stahler and Francesco Palla:

"Theory of Star Formation", a review article in Annual Reviews of Astronomy & Astrophysics by Chris McKee and Eve Ostriker. ZT