



PHYSIKALISCHES KOLLOQUIUM

Wintersemester 2018/19

Montag, 26.11.2018, 12 Uhr c.t. **HZO 20**

Star formation and magnetic fields in the interstellar medium

Prof. Dr. Robi Banerjee

Okinawa Institute of Science and Technology, Japan



Magnetic fields are ubiquitous on all astrophysical scales and objects. They also permeate entire galaxies, where the energy density of magnetic fields is comparable or even larger than the thermal energy. Hence magnetic fields have a wide impact on the dynamics of the interstellar medium (ISM). For instance, they could prevent the gravitational collapse of molecular cloud cores (similar to the thermal pressure) and therefore would not allow the formation of stars. How stars are formed in galaxies in the presence of strong magnetic fields will be one of the topics of this talk. Another issue arises by the impact of magnetic fields on the evolution of angular momentum in gaseous discs around young stars. This could

lead to a 'magnetic braking catastrophe' which prohibits the build-up of protostellar discs and hence the formation of planets. How to circumvent this catastrophic angular momentum extraction will also be a topic of this presentation.

Einführung: Prof. Dr. R.-J. Dettmar

Die Fakultät lädt alle Interessierten herzlich ein.