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Planets in circumstellar disks

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The detection of extrasolar planets and planetary systems has enormously stimulated and invigorated the studies of planet formation during the last decade. In particular, a detailed picture of the evolution of circumstellar/protoplanetary disks, which provide the material and environment from and in which planets are expected to form, has been developed. However, the planet formation process itself is in major parts still under discussion. In order to improve our understanding of planet formation and to refine existing hypotheses for the various phases of this process, adequate observational constraints are required.

In this talk studies will be presented which are focussed on the observability of selected phases and predicted phenomena of the planet formation process. Moreover, observational consequences of the interaction between (proto-)planets and their environment – the circumstellar disks within which planets are expected to form – are discussed for different stages of the disk evolution.