Testi

Gas and dust evolution in protoplanetary disks

The goal of the PhD project will be to extend the dusty disk models to include a simplified but physical processes oriented description of the molecular gas. The models will be optimized for speed and to be used in Bayesian fitting programmes for interferometric (ALMA/JVLA) datasets. The models and fitting algorithm will be developed using high performance parallel computing techniques to allow efficient fitting of large datasets. Using the Excellence Cluster facilities the models will be used to derive constraints on the properties and evolution of the solid and gaseous components of protoplanetary disks. The PhD candidate will become an expert of high performance computing techniques applied to interferometric observational data of disks. The potential of applying these techniques to relatively large samples of protoplanetary disks is extremely attractive and will set the state of the art of the field.