

# **Dynamics and emission of gas and dust in protoplanetary discs**

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Protoplanetary discs are discs of gas and dust around young (class I / II) stellar objects. Despite decades of research on the theoretical front and the rapidly growing number of spatially resolved observations, the dominant physical processes that drive the evolution of gas and dust in protoplanetary discs remain quite elusive. This talk will first aim at reviewing these physical processes. Furthermore, spatially resolved observations show that structures in the form of rings, gaps or large-scale asymmetries seem to be common features of the emission of protoplanetary discs. I will discuss the possible origins for these structures, including the presence of unseen planets in discs.