

Interstellar Dust - A review

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Abstract

The study of the formation and the destruction processes of cosmic dust is essential to understand and to quantify the budget of extraterrestrial organic materials. Although dust with all its components plays an important role in the evolution of interstellar physics and chemistry and in the formation of organic materials, little is known on the formation and destruction processes of carbonaceous dust. Laboratory experiments that are performed under conditions that simulate interstellar and circumstellar environments to provide information on the nature, the size and the structure of interstellar dust particles, the growth and the destruction processes of interstellar dust and the resulting budget of extraterrestrial organic molecules. A review of the properties of dust and of the laboratory experiments that are conducted to study the formation processes of dust grains from molecular precursors will be given.