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THE INTERSTELLAR MEDIUM AND OBSERVATION OF NANODIAMONDS

Abstract

The Interstellar Medium (ISM) is the gas and dust between stars within the Milky Way galaxy consisting of a variety of compounds that emit in different regions of the electromagnetic spectrum. Nanodiamonds have never been observed in the ISM, however, they have been theorized to exist there since they were discovered in meteorites in 1987 and shown to be products of supernovae. Their discovery was surprising in the astrophysics community as it was thought that the conditions in space were not ideal for diamonds to form. They are the most abundant presolar grains that are found in primitive meteorites, predating the formation of the solar system. The aim of this report is to investigate the viability of evidence of nanodiamonds within the ISM and to review the various telescopes, both current and future, that might have the capability to observe different spectral features and patterns to confirm the existence of nanodiamonds.