



## **Presolar grains in meteorites: a new window to the stars**

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Primitive meteorites contain dust grains that are older than the solar system. They formed in stellar outflows and supernova ejecta. These grains thus represent stardust, stellar matter that can be analyzed in the laboratory. To date, diamond, Si carbide, Si nitride, graphite, Al oxide, Ti carbide, and several other phases have been identified. The ion microprobe makes it possible to analyze the isotopic compositions of grains as small as one  $\mu\text{m}$ . These measurements revealed a tremendous range in the isotopic ratios of elements such as C, N, O, Mg, Si, and Ti. Isotopic ratios give information about the parent stars of the grains and about nucleosynthetic processes taking place in the interior of these stars. Examples to be presented will include grains SiC and graphite grains from Asymptotic Giant Branch Stars and Supernovae.