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Isotopic anomalies in meteorites: abundances of short-lived nuclides and their implications for the origin of the solar system

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Some of the isotopic anomalies found in meteorites are thought to have been produced by the decay of now-extinct short-lived nuclides once present in the early history of the solar system. Their short half lives, e.g., less than a few My for Ca-41, Al-26, Mn-53, Fe-60, etc., suggest that their systhesis and subsequent transport to the solar system must take place within a few Myrs. Hence, the abundances of the short-lived nuclides at the time of solar system formation would give important constraints on the origin of these nuclides and on the formation process of the solar system. Isotopic data on the abundance of radioactive nuclides and various arguments on the origin of these nuclides will be reviewed and discussed.