EVIDENCE FOR THE PRESENCE OF PRE-SOLAR GRAINS IN IRON METEORITES

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Though it is now well accepted that some interstellar matter has been preserved in many stone meteorites, the suggestion that iron meteorites also contain pre-solar matter is a recent one. Experimental results will be presented that show that iron meteorites contain isotopically anomalous Xe, Os and Hg. In acid residues of iron meteorites Xe is often depleted in the lightest isotopes, ^{124}Xe and ^{126}Xe. Osmium in many residues is enriched in ^{184}Os. The measured $^{196}Hg/^{202}Hg$ ratios in some residues of iron meteorites show values 30% of the normal ratio. This pattern is also noted in some portions of a stone meteorite (Ambapur Nagla). These results, while on one hand bring into focus the importance of iron meteorites as preservers of interstellar matter, on the other hand, suggest that the genesis of iron meteorites has been by a non-magmatic process.

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