Cosmochronology of Dergaon meteorite

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Abstract

Dergaon Meteorite is a recently fallen Meteorite on March 2, 2001. The chemical, petrographic and Oxygen isotopic studies indicte it to be a typical H5 chondrite, except the unusual low K content.A cosmic ray exposure of 9.7 Ma is inferred from cosmogenic noble gas record. The presence of cosmogenic radio isotopes at the time of fall (March 2,2001) shows that cosmogenic ^{82}Kr/ ^{83}Kr ratio of 1.07 estimated from Kr isotope data is much higher than the pure spallation value for chondritic composition(0.77+-0.04). We are investigating the observed excess of ^{82}Kr and ^{36}Ar as suggestive of neutron capture reaction over the Dergaon Meteorite exposure to cosmic rays during its sojourn in space.