

Noble gas studies on CO3 and L3 chondrites : An Ar-rich component related to isotopically light nitrogen

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Noble gases in four CO3 chondrites (Y-790992, Y-791717, Y-82094 and ALH-77003) and two L3 chondrites (ALH-77167 and ALHA-78119) have been analyzed. One of the purposes is to clarify the noble gas component that related to the isotopically light nitrogen trapped in these meteorites. The present noble gas result suggests that these meteorites contain two primordial noble gas components: Q gas and subsolar like gas. The latter component, characterized by a higher Ar/Xe ratio, is a major component in Ar for the measured chondrites. The highest $^{36}\text{Ar}/^{132}\text{Xe}$ ratio observed here is about 380 at 1100 degrees C of ALHA-77167. This component likely relates to the light nitrogen.