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Constraints from HSE and S-Se-Te abundances on the origin of components of EH3 chondrites.

Kadlag*,Y., Becker, H., Institut für Geologische Wissenschaften, FU Berlin, Malteserstr.74-100, D-12249 Berlin, Germany, yogita@zedat.fu-berlin.de , hbecker@zedat.fu-berlin.de.

Physically separated components of Sahara 97072 (EH3) and Kota Kota (EH3) were analysed for ^{187}Re-^{187}Os systematics, highly siderophile elements (HSE) and chalcogens (Te, Se and S) following established procedures.

The siderophile element data shows that the analyzed EH3 chondrites are mixtures of a minor component with CI like siderophile element ratios (nonmagnetic fraction, CAIs, dark inclusions) and a component with EH specific fractionations (magnetic fraction: metal+sulfide). The magnetic fraction shows slightly enhanced Re/Os and variable, but strong enrichment of Au relative to other HSE, however, the chalcogens, are depleted compared to Au. These patterns cannot be explained by fractionation between solid metal, liquid metal and silicates during melting of chondrule precursors. Abundances of Au in magnetic fractions are decoupled from S abundances and thus likely reflect condensation into metal. Fractional condensation in the solar nebula:may provide the best explanation for the complex patterns. Late impact processes may explain the variable depletion of S relative to Se.

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