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**Origin of metal in CR-clan chondrites –
constraints from Fe and Ni isotopes and highly
siderophile elements**

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CR, CH and CB chondrites are thought to be related due to: depletion in volatile lithophile elements, high metal contents, heavy N isotope composition, and a common oxygen isotope signature [1]. We studied Fe,Ni-metals of these chondrite groups for their trace elements, and Fe and Ni isotope compositions via LA-ICP-MS to find out more about their relationship.

Analyses reveal that zoned and unzoned metal from CH and CB chondrites are very similar in composition and thus, were formed in the same process by condensation from an impact-induced vapor plume [2]. While $\delta^{56}\text{Fe}$ and $\delta^{62}\text{Ni}$ of CH and CB metal correlate positively, metal from CR chondrites do not show any correlation between $\delta^{56}\text{Fe}$ and $\delta^{62}\text{Ni}$. Moreover, only metal grains from CR chondrites show a positive correlation of Pt and $\delta^{56}\text{Fe}$ values. These compositional differences in combination with the textural differences suggest that CR, and CH and CB components have not formed during the same process or event.

[1] Krot, A et al. (2002) MAPS 37, 1451-1490. [2]

+ Weyrauch et al. (2017) Goldschmidt Abstracts, 4233. +

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