Role of defective icosahedra in undercooled metals

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Recent experimental literature:
- Di Cicco et al., PRL 2003
- Kelton et al., PRL 2003
- Schenk et al., PRL 2002

A common approach is to characterize the liquid metal by staring from the analysis of the single icosahedra and its deformations.

Undercoolings as large as 20% of the melting temperature is observed for a great variety of different metals.

Even in simple liquids the short range order may differ from that of crystalline solids.

Icosahedral short range order is postulated in the melts to explain the large undercoolings of pure metals.

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