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Iron Peak in CRs

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Recent measurements of the cosmic ray (CR) energy spectrum in the PeV region and above have confirmed the remarkable sharpness of the knee and revealed another structure at about 70 PeV which we call 'an Iron Peak'. The position and the shape of this structure lead us to associate its likely origin with the same single source responsible for the formation of the knee. We have analysed the shape of the CR energy spectrum from the single source and concluded that their mass composition may be rather similar to the composition of sources for the bulk of CR in the TeV-PeV region. Since it is generally accepted that these CR originate mainly in supernova explosions, the similarity of the mass composition gives an additional argument in favour of our single source being a supernova remnant.
Although we cannot exclude that yet another nearby recent source, viz. a pulsar may contribute, it is argued that at the knee at ∼3-4 PeV less than about 10\% of the CR intensity is due to just a few sources rather than a single source.

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