Mantle-rooted structural discontinuities and mineralization in Yunnan, P.R.CHINA

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The Moho of Yunnan crust lays in a gentle slope dipping to NNW. There are, in general view, three corrugations extending east-westerly on Moho. The corrugation would indicate the upper mantle uplift connected with some deep-rooted structural discontinuities in crust.

The three corrugations are named Gejiu-Mojiang, Kunming-Dali, Dongchuan-Lanpin respectively from south to north and it geologically match up with three major mineralized belts of the Province. Gejiu(Sn), Dongchuan(Cu) and Lanpin(Pb+Zn) deposits are famous worldwide.

Uneven revolving and non-uniform material of the earth may cause the mantle uplift. East-west oriented collision between Indian Plate and Eurasian Plate could yield east-west striking crustal discontinuities and associated mantle upwelling.

Mantle-rooted structural discontinuities play an important role not only to introduce thermal current but to flow ore fluid. Up-going thermal fluid mixed with certain magma will form typified ore deposits such as Gejiu Sn(granite) and Mojiang Cu-Ni-Au(ultramafic). Lanpin, Dongchuan and other giant deposits are probably result from the concentration of ore fluid transported through mantle-rooted discontinuities. It suggests that more attention to EW-striking mantle-rooted structural discontinuities will be paid in future exploration.