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Upper Mantle Conducting Layer and Role of Fluids in Himalayan Geodynanamics

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The lesser Himalayan region consists of many thrust zones due to the collision and subsidence of the Indian plate with the Eurasian plate. Conductors in the crust have been mapped in lesser Himalayas by several workers along the line of collision with the Delhi-Aravalli Fold Belt (DAFB). The conductors are likely to have a linkage with the upper mantle in the form of partial melts. We suggest that the collision of the high density DAFB, crust in a strike slip environment, generated fluid zones in the upper mantle across the lesser Himalayas. The presence of these fluids in the upper mantle is influencing the physical and chemical properties at the Moho and are culminating in high conductivity, seismic stresses etc.

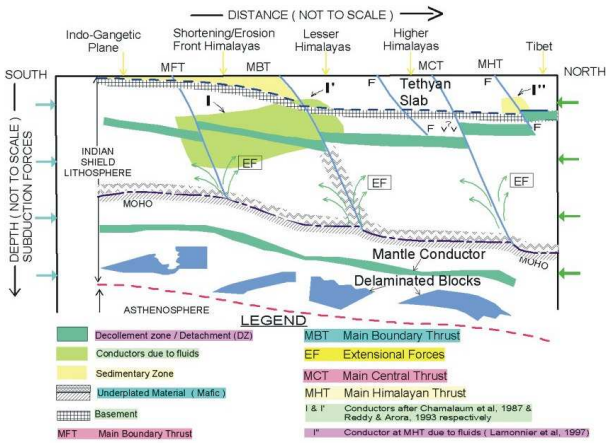

Figure 1. Cartoon showing delaminated blocks and conductors (existing and proposed) in the study region.