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A correlation between the terrestrial heat flow densities and Curie depths for the Indian Craton

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The virtual (or effective) thermal conductivity (ETC) of the Indian subcontinental crust model is calculated from geochemical/geothermal data on the mean radiogenic heat generation and on the real thermal conductivity (TC) of crystalline rocks of India. This ETC amounting to about 3.45 W/m K, is 1.4 time greater than the mean real TC value (about 2.5 W/m K). This is in good agreement with the empirical relation between the surface heat flow density and the Curie depth for the Indian Craton (see, e.g., R.K. Sarkar and D.K. Saha, "A note on the lithosphere thickness and heat flow density of the Indian Craton from MAGSAT data", Acta Geophys. 54(2), 198-204, 2006).