

**Investigation of the isostatic
equilibrium of the central
highlands of Sri Lanka**

by

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**Carried out at the
Department of Physics,
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**Under the Grant no.
ASP/06/RE/2006/05**

Amount of the grant : Rs. 197,000.00

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ABSTRACT

The contact boundary between two major lithological units of Sri Lanka known as the Highland Complex and the Vijayan Complex is one of the most striking features of geology of Sri Lanka. An interpretation of Bouguer gravity anomalies has been carried out to produce a detailed three - dimensional model for the crustal structure beneath this boundary as well as the central highlands of the country assuming the Highland and the Vijayan Complexes of rocks have two different densities. Further, it has been assumed in this study that the Highland Complex is underlain by the Vijayan complex which acts as a tectonic basement to the Highland Complex. Results show that the maximum thickness of the Highland Complex is 7 km and the maximum thickness of the crust over this region is 36 km. The crustal thickness is comparatively higher beneath the central Highlands and beneath the boundary between the Highland and the Vijayan rock units indicating the presence of a crustal root. A study of the isostatic equilibrium of this region has also been carried out and found that the region is more or less in the equilibrium.