

Moho topography of the West Antarctic Rift System from inversion of aerogravity data: ramifications for geothermal heat flux and ice streaming

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The West Antarctic rift system, a region of thinned continental crust, dominates the lithospheric structure of the Ross Embayment in West Antarctica. It has long been hypothesized that the lithospheric structure beneath the West Antarctic Ice Sheet is a major influence on the formation, nature and dynamics of the ice sheet. The structure of the crust-mantle boundary is a fundamental geophysical parameter for understanding lithospheric processes and for geodynamic interpretation. In this paper, we use aerogravity data to derive a map of the crust/mantle boundary beneath the West Antarctic Ice Sheet and to reveal the impact of relative changes in thickness of the crust and lithosphere on surface heat flow and ice streaming.