

Looking down to look up: Results of a DC resistivity study of the grounds of Birr Castle, Ireland

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The telescope at Birr Castle, in virtually the dead centre of Ireland at Offaly, was the largest telescope in the world for over 70 years (1840s onwards). Irish astronomers wish to continue this historical tradition and install a modern radio telescope in the grounds of the castle. However, stability requirements necessitate anchorage of concrete pillars to basement, at an unknown depth below the overburden. A DC resistivity survey was conducted in August, 2005, to determine depth to basement, with a Campus Tigre resistivity metre and multi-core cable. Measurements were made every 5 m, with 28 electrodes deployed simultaneously. The data were modelled using the Res2dinv program, and the results indicate that basement is at a depth of 9-14 m with an easterly dip.