

# Paper Number: 1383

## Using thermal imagery to find G-spots

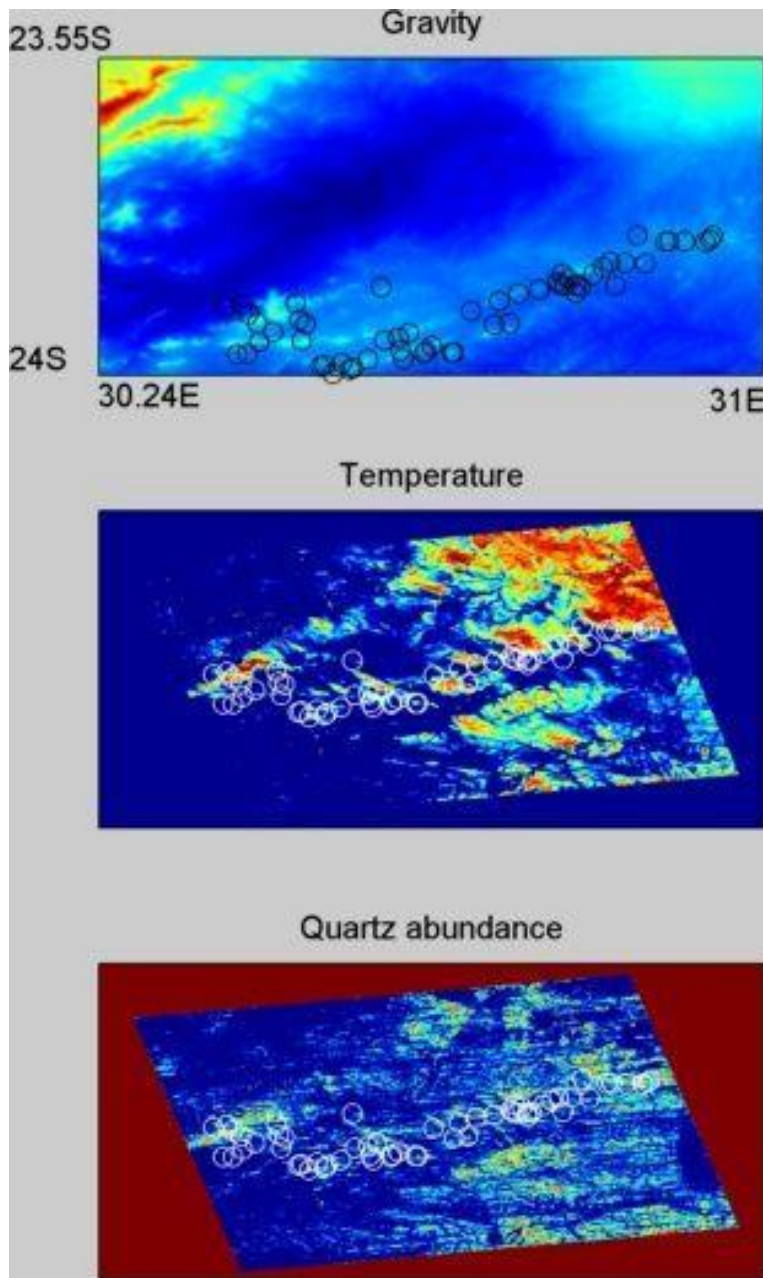
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Satellite thermal images illuminate targets other remote sensing systems may miss thanks to the penetrative ability of long wavelength IR which can see through moderate transported cover and vegetation.

We present several gold exploration examples from brownfields terrains including the Karelian Gold Line in Finland, Birnin Gwari in Nigeria, the Abitibi (Quebec) and Murchison (Limpopo) Greenstone belts and a recent greenfields discovery in Northern Ireland.



Multichannel satellite thermal systems such as Aster provide not only temperature maps which often correlate with lithology but also abundances of minerals important for exploration such as quartz.

In some cases satellite thermal data may be used as a proxy for airborne gravity which is expensive to collect and difficult to measure as aircraft turbulence induces accelerations which mix into gravity gradient responses from the ground, but may be many orders of magnitude stronger.

We show how nighttime Aster thermal imagery may be used to produce a gold prospectivity map for the Murchison Greenstone belt using a database of 59 gold occurrences (open circles on the image to the left) supplied by the Council for Geosciences as a training set.

