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Space observatory for Matjiesfontein

By Staff writer

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Matjiesfontein, a sleepy railway and highway stop on the way to Cape Town, may soon be home to a proposed new international space geodetic observatory, the Council for Scientific and Industrial Research (CSIR) says in its latest newsletter.

The announcement follows a Cabinet decision this week to clear the National Space Agency Bill for submission to Parliament. The Bill will create the National Space Agency as a dedicated institution to fund and pursue space science.

The newsletter says the Great Karoo stop-over has been adjudged "ideal" for such an observatory following an extensive scientific survey.

"Provisionally called the International Institute for Space Geodesy and Earth Observation, the station is envisaged to operate advanced space geodetic techniques as part of a global network, of which a lunar laser ranger and satellite laser ranger would be major components."

The CSIR, the Council for Geoscience and the Hartebeesthoek Radio Astronomy Observatory recently concluded an investigation at a site some five kilometres outside the historic town.

The site is located in a small depression, which will shield it from radio frequency interference. "It is especially suitable due to its many cloudless days, clear skies and low atmospheric water vapour content," says Stoffel Fourie, geophysicist in the CSIR's applied geoscience research group.

Geophysical, geotechnical and atmospheric measurements were used in the survey to test the geologic structure of the site, which is located close to the geological contact point between sandstones and shales of the Cape and Karoo Supergroups. "The geophysical investigations involved magnetic, electromagnetic and seismic refraction surveys that indicated the geology of the proposed terrain is relatively homogeneous and without obvious structures such as dykes and major faults," Fourie explains.

These elements are imperative for the successful long-term operation of a radio observatory and laser ranging techniques.

The South African Large Telescope, near Sutherland, is only some 100km north of the proposed Matjiesfontein site. It is also not too distant from Carnarvon where the MeerKAT radio telescope will shortly be built as a precursor for the larger \$1.6 billion international Square Kilometre Array.

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