

# SANSA

## SPACE SCIENCE RESEARCH



### Space Weather

The SANSA Space Weather Centre provides an important service to the nation by monitoring the Sun and its activity, providing vital space weather information to government, the public and private industry users in Africa.



### Human Capacity Development

SANSA is dedicated to growing South Africa's knowledge economy through postgraduate student training, summer and winter schools, bursary and internship programmes.

The South African National Space Agency (SANSA) plays a key role in monitoring space from Earth and forms part of the worldwide network of magnetic observatories. The facility in Hermanus is responsible for space science research, infrastructure and data used to monitor the near-Earth space environment over Southern Africa, Indian and Atlantic ocean, Antarctica and the South Pole.



### Optical Space Research

SANSA has a number of research projects studying atmospheric gravity waves to gain insight into the dynamics of the Earth's middle atmosphere.



### Ionospheric Research

SANSA has various research projects aimed at gaining a better understanding of the ionosphere and the impact that this atmospheric region has on technological systems.



### Geomagnetically Induced Currents

Space weather events can give rise to geomagnetically induced currents (GIC's) in power lines which may result in transformer damage. SANSA is involved in extensive research to better understand and reduce the effects of GIC's.

### Geomagnetic Research

Monitoring changes in the direction and strength of the Earth's magnetic field over time and how this can impact on earth dynamics and navigation systems.

### Plasma Physics

99% of the visible universe is made up of plasma making it a vital area of research. SANSA conducts research in fluctuation wave phenomena in plasmas in the Earth's magnetosphere, ionosphere and other astrophysical environments.



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