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Federal Agency for Cartography and Geodesy
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Poster
The Federal Agency for Cartography and Geodesy (BKG) is a German higher federal authority in the portfolio of the Federal Ministry of the Interior and Community. With the Geodetic Observatory Wettzell (GOW), the BKG operates one of the world's most important fundamental geodetic stations, which is recognized as a GGOS Core Site. Currently, in addition to the existing responsibilities in geodesy, ground-based measurement infrastructure for space weather observation is being established with a focus on the potential impact on satellite navigation.

The planned measurement infrastructure includes sensors for direct solar observation as well as for detecting the influence of the sun on the Earth's ionosphere and magnetic field. The Solar Flux Telescope is scheduled to go into operation at the end of 2023. This telescope will directly observe the sun's radiation intensity in the radio wave spectrum. One of the frequency bands considered will be at 2.8 GHz to measure the F10.7 index. In order to be able to link solar activity with variations in the Earth's magnetic field, magnetometers have been installed in the vicinity of the observatory. Further magnetometers at selected locations will follow. To directly characterize the state of the ionosphere, the Total Electron Content (TEC) and ionospheric scintillations will be monitored. This poster gives an overview of current and future capabilities of the BKG in the field of ground-based space weather observation.



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