UK designed cameras to improve space "weather forecasts"

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Cameras being built in the UK are set to improve the forecasting of space weather events.

The cameras are going to be installed onto the world's biggest solar telescope that is being built with the help of researchers from Sheffield University.

Led by Queens University Belfast, the Sheffield team is building cameras for the £344m super telescope which will be situated in Hawaii.

> 'In 1996 a particularly large amount of energetic solar plasma material was ejected from the Sun towards the Earth, which damaged satellites and electrical transmission facilities, as well as caused disruption to communications systems.'
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> Prof Robertus von Fay-Siebenburgen, head of Solar Physics and Space Plasma Research Centre, Sheffield University

Scheduled for launch in 2019, the Daniel K Inouye Solar Telescope (DKIST) is being constructed by the US National Solar Observatory on Haleakala mountain in Maui, Hawaii.

With a 4m diameter primary mirror, it is hoped that DKIST will address fundamental questions at the core of contemporary solar physics via high-speed spectroscopic and magnetic measurements of the solar photosphere, chromosphere and corona.

In a statement, Prof Michail Balikhin from Sheffield University said: 'Our Space System Laboratory in Sheffield has a well-established track record in space weather forecasting using a spacecraft situated

about 1.5 million km from our planet. At the moment this enables us to identify space weather, such as solar wind velocities, approximately one hour before they reach Earth, but once this telescope is built we may be able to significantly extend this time.'

The consortium will oversee the development and delivery of the cameras, and take the lead in supporting the UK solar physics community in their use of DKIST by providing a set of processing tools for DKIST data, synthetic observations to validate diagnostic approaches, and support for developing observing proposals.

The project will be mainly funded by the US National Science Foundation.