

Video: Flying under Aeolus

8 February 2019



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Following the launch of Aeolus on 22 August 2018, scientists have been busy fine-tuning and calibrating this latest Earth Explorer satellite. Aeolus carries a revolutionary instrument, which comprises a powerful laser, a large telescope and a very sensitive receiver. It works by emitting short, powerful pulses –50 pulses per second –of ultraviolet light from a laser down into the atmosphere.

The instrument then measures the backscattered signals from [air molecules](#), [dust particles](#) and [water droplets](#) to provide vertical profiles that show the speed of the world's winds in the lowermost 30 km of the atmosphere. These measurements are needed to improve weather forecasts. As part of the working being done to calibrate this novel mission, scientists have been taking similar measurements from an aircraft carrying an airborne version of Aeolus' instrument. The pilot flies the plane under the satellite as it orbits above so that measurements of wind can be compared.

Provided by European Space Agency

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