

GREAT : Successful first year of science operation

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Abstract—GREAT, the German REceiver for Astronomy at Terahertz frequencies, is a modular dual-color heterodyne instrument for the Stratospheric Observatory for Infrared Astronomy (SOFIA). First light was recorded during the SOFIA observatory characterization flight #4 on April 1, 2011. Since then, receiver system showed state-of-the art performance on more than a dozen science flights.

A collection of three frequency channels (L1: 1.25-1.53 THz, L2: 1.82-1.91 THz and M: 2.51 THz) has been commissioned and operated so far. Two of them form a flight configuration and can take data simultaneously. The commissioning of our M-Band channel in July 2011 impressively demonstrated the flexibility offered by a PI instrument like GREAT to fly latest technologies only weeks after they become available. We present the instrument as operated in 2011, its performance in flight, and give an outlook on the upcoming developments for the 2012/13 observing cycle #1.