

## A 4.745 THz Local Oscillator for the upGREAT receiver

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**Abstract**—We present the development of a local oscillator for the H channel of upGREAT, a 7pixel heterodyne receiver on board of the SOFIA aircraft which is used to observe the OI line at 4.745THz.

The local oscillator has to provide the pump power for all 7 HEB mixer pixels. Further requirements are mechanical stiffness, optical stability, frequency stability and a certain tunability.

We include details of the QCL development, refocusing optics as well as cryogenics and vibration cancellation.