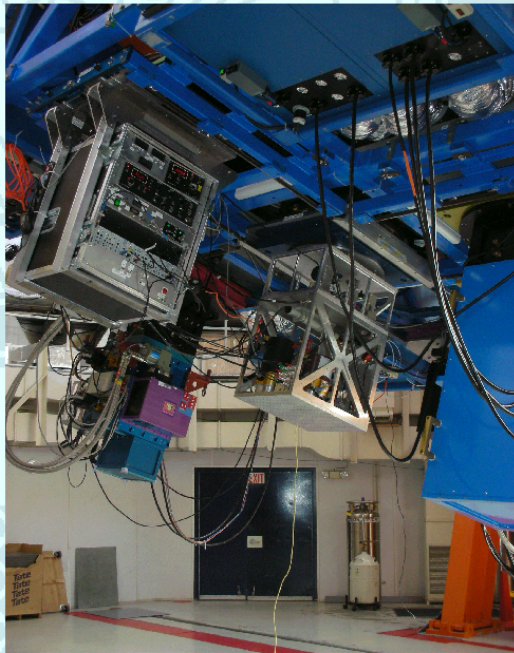


# Studying the Atmosphere of Mars by High-Resolution Infrared Heterodyne Spectroscopy

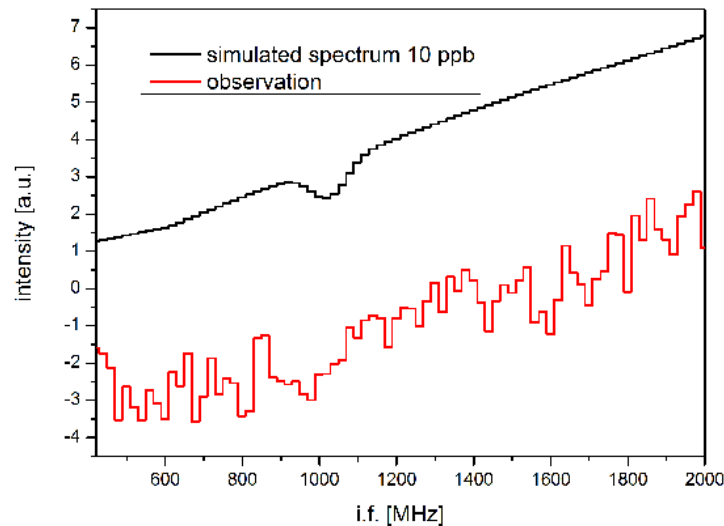
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**THIS mounted at the Cassegrain Focus of the NASA Infrared Telescope Facility, Mauna Kea, Hawaii**



**First IR heterodyne observation of Mars at  $7.8 \mu\text{m}$  (in red). Data was acquired on March 6th, 2008 using THIS at the IRTF. In black a model spectrum using 10ppb of methane is shown. The tentative feature in the observed spectrum is offset from the predicted line at  $1275.0417 \text{ cm}^{-1}$  by 47 MHz. In addition, the spectrum shows an unexplained intensity offset.**