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Titan's atmospheric structure from HASI temperature measurements.

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The temperature profile of Titan's atmosphere has been measured by the Huygens Atmospheric Structure Instrument (HASI) during the mission of the Huygens probe at Titan on 14^{th} January 2005. Below 160 km direct temperature measurements have been performed by the HASI TEM sensors. The temperature profile of the upper atmosphere has been retrieved from the accelerometric data during the entry phase. The profile is in very good agreement with the model derived from Voyager observations. The thermal structure and stability of Titan's atmosphere will be discussed also in relation with the results of ground based observations (e.g. stellar occultations) and remote sensing observations by Cassini.