

# **Nitrogen chemistry and tracer correlations in the tropical UT/LS region from MIPAS-B measurements**

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In the framework of the ENVISAT validation programme, the first flight of the Michelson Interferometer for Passive atmospheric sounding (MIPAS-B) in the tropics was performed from Teresina in Brazil ( $\sim 5^{\circ}\text{S}$ ) on 13-14 June 2005. Thanks to the stratospheric wind system governed by the quasi-biennial oscillation, a long boomerang flight could be established. This allowed, apart from the validation tasks, numerous dedicated scientific studies such as time-resolved measurements around sunrise, 3-D cloud surveys below 20 km, pointing at the outflow of convective systems, and fine sampling of the tropical tropopause layer. The measurements covered latitudes from the equator to about  $10^{\circ}\text{S}$ . The focus of the paper will be on the distribution and budget of nitrogen constituents and tracer correlations in comparison to 3-D chemistry model calculations. The relevance of the nitrogen chemistry in the tropics will be put into perspective with observations performed in middle and high latitudes. Tracer correlations will be discussed to illustrate the different behavior of transport and photochemistry in the tropics.