



## **The Huygens Doppler Wind Experiment: Results from Titan**

**M.K. Bird** and/ the DWE TEAM

(1) Univ. Bonn, Bonn, Germany

The ESA Huygens Probe entered and descended for nearly 2.5 hours through the atmosphere of Titan on 14 January 2005. Huygens survived impact on the surface and continued its telemetry broadcast to the NASA Cassini spacecraft on two separate radio links, denoted Channels A and B, respectively, for an additional 1.2 hours. The instrumentation for the Huygens Doppler Wind Experiment (DWE) consisting of two Ultra-Stable Oscillators in the transmitter (TUSO) and receiver (RUSO), were implemented only in Channel A. Whereas Channel B functioned flawlessly during the entire mission, the receiver for Channel A was never able to lock onto the Huygens signal because the DWE-RUSO had not been properly programmed into the critical probe radio relay sequence. All data on Channel A, including the DWE measurements and probe telemetry, were thus lost. In spite of this setback, the Channel A signal was successfully received at many radio telescopes on Earth. The precision of these Doppler measurements, considered as an aggregate, is roughly equivalent to that which had been foreseen from the measurements on board Cassini. We present an overview of the DWE ground-based observations and the Titan wind profile derived from them.