



Ion and Neutral Gas Mass Spectrometer (INMS) Results from the First Flybys of Titan

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The Ion Neutral Mass Spectrometer (INMS) aboard the Cassini Orbiter has obtained the first in situ composition measurements of the neutral densities of molecular nitrogen, methane, hydrogen, argon, several other hydrocarbon species and, trace amounts of several other carbon and nitrile compounds in its first flybys of Titan. The bulk composition and thermal structure of the moon's upper atmosphere do not appear to have changed since the Voyager 1 flyby in November 1980. The altitude variation of the nitrogen-methane ratio suggests a homopause level near 1200 km. There is evidence for atmospheric waves in the upper atmosphere. Isotopic measurements of nitrogen, carbon and argon provide interesting clues about the evolution of the atmosphere.

In this talk results from Titan flybys Ta and Tb will be compared.