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## **Titan and Enceladus: Through the Eyes of the Cassini Ion Neutral Mass Spectrometer**

J. Hunter Waite, Jr.,

Southwest Research Institute, Division of Space Science and Engineering, San Antonio, Texas,  
78228-0510 (email: hwaite@swri.edu / Fax: 210.543.0052 / Phone: 210.522.2034)

The Cassini spacecraft has performed three close flybys of Enceladus and over 40 close flybys of Titan. On most of these flybys, the Ion Neutral Mass Spectrometer (INMS) has acquired mass spectra from 1 to 100 Daltons for both ions and neutrals with repetition time scales of approximately 5 seconds. From this data, we can measure how the composition changes with altitude from the surface and from that infer the thermal structure of the gases that surround the body as well. We present a compilation of mass spectra from Titan and from this derive the organic complexity of the upper atmosphere and the evolution of the atmosphere through stable isotope analysis of  $N_2$ ,  $CH_4$ , and  $H_2$ . We also present very recent flyby data from Enceladus and show how the composition of the plume differs from that of the sputtered surface materials in hopes of providing an insight into the source of the plume material.