



 [Print this Page for Your Records](#)

[Close Window](#)

Control/Tracking Number: 08-RC-572-AAS-DPS

Activity: Research Contributed

Current Date/Time: 8/1/2008 5:45:42 PM

NASA's Venus Science and Technology Definition Team: A Flagship Mission to Venus

Author Block:: Mark Alan Bullock¹, D. A. Senske², T. S. Balint², B. A. Campbell³, E. Chassefiere⁴, A. Colaprete⁵, J. A. Cutts², L. Glaze⁶, S. Gorevan⁷, D. H. Grinspoon⁸, J. Hall², W. Hartford², G. L. Hashimoto⁹, J. W. Head¹⁰, G. Hunter¹¹, N. Johnson⁶, W. S. Kiefer¹², E. A. Kolawa², T. Kremic⁶, J. Kwok², S. S. Limaye¹³, S. J. Mackwell¹², M. Y. Marov¹⁴, A. Ocampo¹⁵, G. Schubert¹⁶, E. R. Stofan¹⁷, H. Svedhem¹⁸, D. V. Titov¹⁹, A. H. Treiman¹²

¹Southwest Research Institute, ²Jet Propulsion Laboratory, ³Smithsonian Institution, ⁴Service d'Aéronomie, France, ⁵NASA Ames Research Center, ⁶NASA Goddard Space Flight Center, ⁷Honeybee Robotics, ⁸Denver Museum of Nature & Science, ⁹Kobe University, Japan, ¹⁰Brown University, ¹¹NASA Glenn Research Center, ¹²Lunar and Planetary Institute, ¹³University of Wisconsin, ¹⁴Keldysh, Russian Federation, ¹⁵NASA Headquarters, ¹⁶University of California, ¹⁷Proxemy Research, ¹⁸European Space Agency, Netherlands, ¹⁹Max Planck Institute, Germany.

Abstract:

The Venus Science and Technology Definition Team (STDT) was formed by NASA to look at science objectives, mission architecture, science investigations, and instrument payload for a Flagship-class mission to Venus. This \$3-4B mission, to launch in the 2020-2025 timeframe, should revolutionize our understanding of how climate works on terrestrial planets, including the close relationship between volcanism, tectonism, the interior, and the atmosphere. It would also be capable of resolving the geologic history of Venus, including the existence and persistence of an ancient ocean. Achieving all these objectives will be necessary to understand the habitability of extrasolar terrestrial planets that should be detected in the next few years. The Venus STDT is comprised of scientists and engineers from the United States, the Russian Federation, France, Germany, the Netherlands, and Japan. The team began work in January 2008, gave an interim report at NASA headquarters in May, and will deliver a final report in December 2008. The Venus STDT will also produce a technology roadmap to identify crucial investments to meet the unique challenges of *in situ* Venus exploration.

We will discuss the mission architecture and payload that have been designed to address the science objectives, and the methods we used. Most of the science objectives in the latest VEXAG white paper can be addressed by a Venus Flagship mission, and equally importantly, NASA can fly a large mission to another Earth-sized planet with the explicit intention of better understanding our own.

:

Category (Complete): 02. Venus

Facility Keywords (Complete): None selected

Presentation Preference (Complete): 1 - Oral Preferred

Additional Information (Complete):

I am willing to serve as a Chair: No

Status: Complete

American Astronomical Society
2000 Florida Ave., NW
Suite 400
Washington, DC 20009

Powered by OASIS, The Online Abstract Submission and Invitation System SM

© 1996 - 2008 Coe-Truman Technologies, Inc. All rights reserved.