

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
RESEARCH AND TECHNOLOGY RESUME

## TITLE

International Workshop on Time-Variable Phenomena in the Jovian System  
(Publication of Proceedings).

## PERFORMING ORGANIZATION

Kitt Peak National Observatory  
950 N. Cherry Avenue  
Tucson, Arizona 85719

## INVESTIGATOR'S NAME

Michael J.S. Belton  
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DESCRIPTION (a. Brief statement on strategy of investigation; b. Progress and accomplishments of prior year; c. What will be accomplished this year, as well as how and why; and d. Summary bibliography)

(a) Strategy: Many of the scientifically interesting phenomena that occur in the Jovian system are strongly time variable. Some are episodic (eg. Io volcanism); some are periodic (wave transport in Jupiters atmosphere); and some are exceedingly complex (magnetosphere - Io - Torus-Auroral interactions) and possibly unstable. To investigate this class of phenomena utilizing Voyager data and, in the future, Galileo results, a coherent program of ground based and earth-orbital observations, and of theory that spans the time between the missions, is required. To stimulate and help define the basis of such a scientific program we organized an International Workshop on the subject with the intent of publishing the proceedings which would represent the state of knowledge in 1987.

(b) Accomplishments: We helped organize a workshop on "Time-Variable Phenomena in the Jovian System" that was held 25-27 August, 1987 at the Lowell Observatory in Flagstaff, Arizona. Eighty nine scientists participated in a program that included fifteen invited papers and forty one contributed (posters) papers. One third of the workshop was devoted to oral discussion of the results and a final session, which highlighted a preview of an International Jupiter Watch organization, was organized by Dr. C. Russell.

(c) Anticipated Accomplishments: The Proceedings of the Workshop will be published in 1988 as a NASA-Special Publication. It will contain thirty papers - including all of the invited papers given at the Workshop. We expect that it will become the basic scientific rationale for an International Jupiter Watch program that will soon be proposed to NASA.