

INTERNATIONAL ASTRONOMICAL UNION

SYMPOSIUM No. 40

PLANETARY ATMOSPHERES

Edited by C. SAGAN, T. C. OWEN and H. J. SMITH



INTERNATIONAL ASTRONOMICAL UNION

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PLANETARY ATMOSPHERES

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IAU Symposium No. 40 on Planetary Atmospheres brought together more than 100 experts for a week of papers and discussion. One of the 9 sessions was devoted to the outer planets, with principal emphasis on Jupiter. The majority of the sessions were divided approximately equally between Mars and Venus. Special emphasis was given to the atmosphere of Venus as probed by the recent Soviet Venera series, and the degree to which the Russian probe results are consistent with the rapidly increasing information available from spectroscopy of the upper atmosphere and radio astronomy observations of the lower atmosphere and surface characteristics. Models of the Venus atmosphere are now relatively consistent between the various modes of investigation; among the principal remaining puzzles are details of water vapor detectability and abundance, and the nature of the clouds, although considerable evidence was presented at the conference in favour of hydrated ferrous chloride as a principal cloud material. New insights on the Martian large-scale circulation, the total abundance of constituents, the partial pressure of the atmosphere, and the predominantly CO₂ character of the polar caps were features eliciting general agreement; one of the major uncertainties of Mars is its exospheric properties. We are approaching a point where the Martian atmosphere is well enough understood for large-scale climatology to be a practical subject for investigation.

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UNION ASTRONOMIQUE INTERNATIONALE

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PLANETARY ATMOSPHERES

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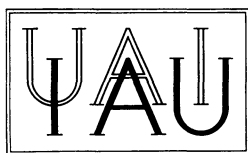
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