



Updating the Venus International Reference Atmosphere (VIRA)

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The compilation of the Venus International Reference Atmosphere was completed in 1985 through the initiative of A.J. Kliore, V.I. Moroz, and G.M. Keating. Consisting of seven chapters, it presented a synthesis of the best available data at that time on the neutral atmosphere and ionosphere of Venus. This model consists of seven chapters: (1) Models of the structure of the atmosphere of Venus from the surface to 100 km altitude, (2) Circulation of the atmosphere from surface to 100 km, (3) Particulate matter in the Venus atmosphere, (4) Models of Venus neutral upper atmosphere: structure and composition, (5) Composition of the atmosphere below 100 km altitude, (6) Solar and thermal radiation in the Venus atmosphere, and (7) The Venus ionosphere.

VIRA provides tables and figures as well as description of how the models were synthesized from the available data and references.

VIRA has helped many studies of Venus since its publication and in fact has proved invaluable in comparing and contrasting many studies by providing a common standard for atmospheric data. The organizers of VIRA had anticipated updating the model soon after publication as newer data were becoming available from Pioneer and Venera missions. Since then many other missions have yielded valuable data and newer findings. In particular the Venus Express mission is currently providing many new details of the atmospheric structure and radiation balance from its instruments, so an effort to update VIRA is timely.

The Venus community continues to consider new missions to address the unanswered questions about Venus and hence updating the Reference Model in the near future will help both future studies and understanding the available observations through models that need the information.

The Venus Exploration Analysis Group (VEXAG) sponsored by NASA provides an international forum to carry out the required effort and invites Venus scientists to propose models and participate in working group to update the model. The EGU meeting provides an opportunity to plan the update by considering gaps in the models, examine defects, review newer data and a proposed schedule for the final adoption. VEXAG meetings and other meetings of opportunity such as COSPAR, EPSC/DPS and others may be useful occasions for splinter meetings for the working groups.