



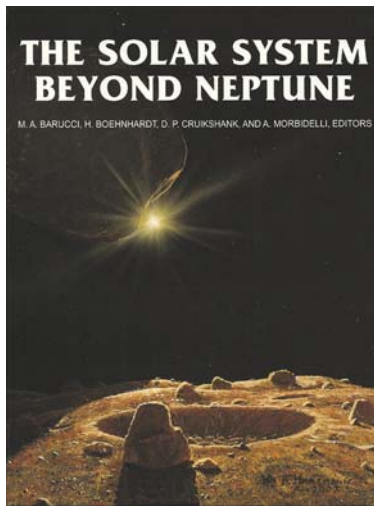
The solar system beyond Neptune

by **M. Antonietta Barucci et al.**
(Eds.)

University of Arizona Press, 2008.
ISBN 0-8165-2755-5. Pp xix + 592,
£70.00 (hbk).

This latest offering in the Space Science Series produced by the University of Arizona Press in collaboration with the Lunar and Planetary Institute puts the outer solar system on the map for the very first time. The Space Science Series reviews current knowledge in specific fields relating to our own solar system, as well as the formation of stars and other planetary systems in our galaxy. In so doing it aims to

set the benchmark or foundation on which future scientific advancement in each subject can be built. It largely succeeds in this objective by inviting contributions from researchers at the forefront of scientific advancement in each field of study, encapsulating their knowledge in carefully written and concise chapters packed with the latest information at the time of writing. Scientific accuracy is ensured through a peer review process, which in this instance involved more than 50 other workers in each of the relevant subjects.



With hindsight, following the identification of the first transneptunian object (TNO) in 1992 by Jewitt & Luu, and the subsequent discoveries of more than 1000 further objects over the intervening years, we now recognise that Pluto is simply the largest

body of the TNO population. Sufficient knowledge now exists that we can begin to properly describe the characteristics of the inhabitants of this transneptunian 'zoo', which this book describes in detail from many angles. The book's editors have authored the first chapter providing an overview of the subject and this is followed by a review article tracing its history, including the relationship with comets. A further thirty-three articles make up the remainder of the book, each one of which is a stand-alone 'read' in its own right. A typical approach in many of the articles is to describe the theory behind the techniques both observational and mathematical which underpin the research and, as such, should be a valuable work of reference for many years to come.

Recent advances are addressed under a wide variety of topics including, orbital properties; nomenclature; taxonomy; physical characteristics such as sizes, composition, colours, shapes and rotations; forma-

tion processes and collisional evolution; the largest objects; binaries; atmospheres; links with Jupiter-family comets, planetary satellites and other solar system populations; extrasolar dust disks; laboratory studies; and prospects for the future including stellar occultations, NASA's Pluto–Kuiper Belt mission *New Horizons* due to arrive at Pluto in 2015, and future surveys. Prospective purchasers should find a good deal to interest them given the authoritative treatment of the many wide-ranging subjects covered.

The reviewers and editors have done a fine job in capturing the essence of what is a whole new branch of astronomy, one that did not exist just twenty years ago. Although comprising contributions from many authors of various nationalities, a consistently high standard and uniform style of English is used throughout the book giving it an deserved air of authority. The archival quality paper used in its production gives it that quality feel also, and a separate colour section contains 13 plates each related to one or other of the chapters in the book. An adequate index is provided including many references to almost 100 individual TNOs and Centaurs. Not a single error was found by this reviewer: a fine work in all respects, one that is thoroughly recommended to researchers and students of the subject alike.

Richard Miles

Dr Richard Miles has recently been appointed Director of the Asteroids and Remote Planets Section of the BAA, and through reviewing this book, has already identified a number of new opportunities open to BAA members who wish to observe objects out beyond Neptune.

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