
This fat tome is the fruit of a valiant attempt to bring together those who work on the multifarious facets of solar and stellar physics concerned with surface activity, with a clear view to progress through a pooling of experiences and ideas. I guess that a measure of how well the organizers succeeded can be judged from the free-flowing discussions heroically transcribed from tapes, although the consolidation of any true synthesis will take a little longer.

A number of fine reviews will make the volume a 'must' for serious astrophysics libraries. As an observer, I found several of particular interest, including Vogt on spots, spot-cycles and magnetic fields and the set of reviews on flares as seen across the whole spectrum, from Haishc on X-rays to Gibson on radio emission. For the specialist, there was a session devoted to the different types of object: the Sun, RS CVn binaries, contact binaries and the erratic T Tau and UV Cet stars. Theoreticians brought the proceedings to a close with a full airing of the magnetic possibilities.

All in all, a very worthwhile venture has been chronicled here, although there may have been a little re-inventing of the wheel that could have been avoided by the presence of one or two Ap-star pundits, who were modelling spotty stars more than 20 years ago.—David Stickland.

The Orion Complex: A Case Study of Interstellar Matter, by C. Goudis (Reidel, Dordrecht), 1982. Pp. 311, 9$\frac{1}{2}$ × 6$\frac{1}{2}$ inches. Price £35.

In this work the author has set out to provide both a comprehensive reference book for the specialist and a general introduction for the newcomer to studies of interstellar matter.

The first rôle is fulfilled by the main body of the book, which is divided into five chapters covering the topics of the Large-Scale View of the Orion Region, the H II Regions M42 and M43, the Orion Complex (M42/OMC1, M43/OMC2), Empirical Models of the Orion Complex, and NGC 2024 and the Associated Molecular Complex. Each chapter consists of a short summary of research results together with an extensive section of published data presented in the form of photographs, contour maps, diagrams and annotated tables. In each case the source of the data is identified with reference to the original paper. The literature survey is comprehensive and covers papers published up to and including 1980. The wealth of information presented in the compilation is impressive, but it is not something that can be taken in at a single inspection, and the real value of the book will be as a work of reference which can be dipped into at frequent intervals and which provides a readily accessible route to the existing literature.

As well as a detailed study of the Orion complex the book contains four appendices which give an outline of radiative transfer through a medium and the methods used to derive the physical parameters of an H II region and its associated dust and molecular clouds. This section of the book emphasizes the practical use of the different methods and outlines their advantages and limitations rather than going into a lengthy discussion of the physical principles involved. References to more detailed work on these topics are given in both the introduction and the appendices, thus making the volume a useful starting point for the new student.—S. Worswick.