jets, having the property (in common with other recent models) of not requiring a disc to collimate the outflow. The claimed first discovery of infall around YSOs by MacDonald & Moy is fascinating, but seems to have been surprisingly unnoticed by workers elsewhere. However, the award for the shortest paper goes to Kundt, at just under half a page (the recorded discussion on this paper is longer than the paper itself) in which he pitifully states “the preferred model for SS433” — other authors between them occupy nearly 50 more pages of the book discussing other models for this source! Many of the papers in the book are, naturally, summaries of work published elsewhere, but this does not diminish the usefulness of having them all in one place. In conclusion, this is an excellent and still up-to-date reference work (despite the unfortunate two-year time lag between the conference and the proceedings), which no serious worker in the field (who can afford it) should be without. — DEREK WARD-THOMPSON.


Scientists from fields as diverse as astrophysics, laser-produced plasmas, and laboratory high-temperature plasmas share a common interest in UV and X-ray spectroscopy. Spectroscopy provides a variety of methods for determining the physical conditions in the emitting source, provided accurate atomic data are available. A series of roughly tri-annual colloquia on ‘UV and X-ray Spectroscopy of Laboratory and Astrophysical Plasmas’ has been held since the mid-sixties, and these proceedings are of the tenth colloquium, held in Berkeley in 1992.

Several aspects of astrophysical and laboratory plasmas are complementary. Astrophysical sources often have conditions which cannot be achieved in the laboratory; for example, low electron densities combined with large volumes and path lengths. Observations of their spectra have led to the discovery of a wide variety of forbidden transitions, which are particularly useful in measuring electron densities. Many emission lines formed at high temperatures were first identified in solar spectra. On the other hand, the temperatures and densities can be controlled in laboratory plasmas, and to some extent can be measured by non-spectroscopic methods. Both higher-density regimes and transient conditions can also be studied. Conditions in solar flares provide some area of overlap.

Accurate atomic data, such as collision strengths, transition probabilities, and ionization and recombination rates, are essential to the interpretation of both astrophysical and laboratory plasmas. The requirements of astrophysics have stimulated much of the work on the atomic physics of the lighter, cosmically abundant elements. Laboratory sources can involve heavier elements in even higher stages of ionization, in which relativistic effects become more important. Both types of sources can be used to test atomic theory over a wide range of conditions.

These proceedings describe the recent developments in the field, and contain over 100 papers, some 80 of them being short contributions. The volume is divided into three broad sections, ‘Atomic Processes’, ‘UV Spectroscopy’, and