REVIEWS


In editing the special number of Phil. Trans. Roy. Soc. reprinted here (340, no. 1658), Chandrasekhar’s aim was to illustrate the nature of the “quiet but steady progress” in classical relativity since 1975, when, he says, “the main interest became centred on the ‘frontier areas’ of quantum gravity and cosmology.” His own participation has been sustained over two decades, as long as in most of the areas in which he has made an authoritative mark, and his own recent work, on non-axisymmetric linearized perturbations of spherical stars, is reviewed here by his co-author Valeria Ferrari. The other four contributions are also closely related to his interests: two more on relativistic stars, one on separability of wave equations (especially in the Kerr black-hole case), and one on collisionless gas clouds (star clusters) and their possible collapse to black holes.

The reviewers are well-chosen among the leading experts in the relevant topics; so much so that a number of the reviews focus on the authors’ own work. Following The Observatory’s injunction to “avoid merely listing the contents”, I commend the consistently high standard, from which only some over-compression and misprints detract, and mention only a few points which were new or especially interesting to me. There are still significant differences between the Newtonian and relativistic cases in what can be proven about symmetries of isolated perfect-fluid bodies. The equation of state at nuclear densities may be constrained, from pulsar observations, to be stiff. There are elegant Eulerian and Lagrangian treatments of relativistic stellar perturbations which, among other results, enable surprisingly useful analogies with quantum mechanics and give new insights into gravitational wave emission.

While purchase is hard to recommend to those whose libraries take the original journal, this is a good set of reviews. — M. A. H. MacCallum.


This conference was held as the centenary celebration of the first electrical measurements of starlight, performed in Dublin in 1892. The proceedings contain the review papers and oral contributions which together present an excellent and timely review of the current status and future prospects of stellar photometry. It is unfortunate, however, that the poster papers have been consigned to a separate volume and the present proceedings contain no information on these.

Photometry is a fundamental observational technique of long standing, yet to obtain accurate and very precise photometry is no trivial matter. Millimag-precision photometry is routinely achievable only if sufficient attention is paid to well-known problems. The accuracy of the photometry depends upon how well one can transform from the natural system to the standard system. The importance of matching instrumental response functions to those of the standard system cannot be over-emphasized, as the astrophysical information can be sensitive to the accuracy of this transformation. There is an informative arti-