REVIEW OF PUBLICATIONS


The diverging topics of elementary particle and cosmic ray physics are now being published in separate volumes of this well-known series. The present volume, number six, is a cosmic ray volume. The editors continue to command a comprehensive, authoritative, and up-to-date treatment of each subject by one of its most eminent experts. However, it is regretfully observed that volume number six appears to have taken from two to three years to come out—notes and references added in proof indicate that the authors have been attempting to bring their articles up to date again long after they were written. D. Lal and B. Peters contribute 74 pages on the rate of production of isotopes in the earth's atmosphere by cosmic radiation and on the steady state flow of these isotopes through the various terrestrial reservoirs. They discuss the possible accretion of isotopes such as tritium from the sun but conclude that the amounts must be comparatively insignificant. The discovery of tritium, evidently from the sun, embedded in a recovered satellite nose cone during the November 12, 1960 solar particle event is not included. W. Webber contributes 169 pages on the time variations of low rigidity cosmic rays. His article opens with a quantitative account of the influence of the geomagnetic field on charged particles approaching the earth and continues with an excellent summary of the various emissive effects associated with solar flares, hence to a chronological account of the principal solar particle emissions that occurred in the years 1956 to mid-1960. Modulation of galactic cosmic radiation in planetary space is very thoroughly discussed in the concluding third of this article. Works of this standard of excellence and containing so much information not to be found elsewhere will retain their value for many years. The third article is a review by F. Singer and A. M. Lenchek of the geomagnetically trapped radiation with detailed treatment of one particular theory, the neutron albedo theory of the origin of the protons and of some of the trapped electrons. The mathematical theory of charged particle motion in the magnetosphere is very competently introduced and developed. The co-ordinate system of McIlwain is described. The mechanisms by which trapped electrons and protons are removed are dis-