

Whipple Telescope led to the discovery, in the late 1980s, of TeV gamma rays from the Crab Nebula and other celestial sources, most notably active galactic nuclei (AGN). For his seminal contribution, Weekes was awarded the 1997 Bruno Rossi Prize, the American Astronomical Society's highest honor in high-energy astrophysics. It is fitting that, through his book, Weekes provides the most comprehensive exposition to date on high-energy gamma-ray astronomy.

Very High Energy Gamma-Ray Astronomy is written at the graduate or, perhaps, senior-undergraduate level. It is also a useful text for experimentalists, observers, and theorists. The book contains no worked problems, and readers desiring such will need to seek other sources to complement this text. Because it is not heavily imbued with mathematical developments, the text is extremely digestible and accessible to an audience much broader than just high-energy astronomy specialists. It is a pleasure to read. Occasional historical anecdotes animate the book and provide readers with insight and perspective that reflect the author's inimitable style. Weekes is almost uniquely placed to provide such historical viewpoints. The emerging scientist can benefit much from Weekes's knowledge of a young field now reaping the fruits of his and others' labors.

The text begins with a brief exposition of key developments in the "heroic era of gamma-ray astronomy," as Weekes defines it, and discusses salient characteristics of the atmospheric Čerenkov technique and then space-based telescopes. These first three chapters, useful surveys of those subjects, summarize the most critical elements but do not penetrate deep into any given territory. That approach is the essential style of Weekes's work: Provide an overview to serve as a valuable introduction, offer readers appropriate references, and then leave those readers who desire greater depth in specific topics to use the text as a springboard into further enlightenment. The first three chapters include a look ahead to next-generation instrumental developments that either are now or will soon be on line; the book thus provides the reader with an appropriate connection to potentially exciting future discoveries.

The majority of the book is a discussion of the status quo of observations and theoretical models pertaining to various astronomical high-energy gamma-ray sources, ranging from diffuse emission, supernova remnants and nebulae, and pulsars,

to the exotic extragalactic objects of AGN and gamma-ray bursts. These discussions are again surveys, with the expositions on AGN and supernova remnants and nebulae, subjects closest to Weekes's research interests, receiving the greatest depth of coverage. Weekes devotes an entire chapter to the Crab Nebula, which is absolutely appropriate given that its discovery was the watershed development in the subfield of TeV astronomy. Moreover, the Crab Nebula continues to serve as the benchmark for instrumental calibration in atmospheric Čerenkov telescopes.

Readers will find that Weekes's discussions of the astronomical sources are good background material that will whet their appetites. But those who desire alternative perspectives will need to peruse appropriate conference review papers and the general literature. The appendix on radiation processes is fairly limited in its content. It provides a modicum of background for the textual expositions; gamma-ray astrophysics specialists will desire other, more comprehensive sources of information.

A small portion of the material presented in Weekes's book is out of date, a reflection of the rapid development of observations and models in high-energy gamma-ray astrophysics. But the out-of-date portion does not in any way devalue the book, which will serve as a timely contribution to the academic literature for years to come. Weekes's work is complementary in style, content, and perspective to extant gamma-ray astronomy texts, such as those by Carl Fichtel, Jacob Trombka, Floyd Stecker, and Volker Schönfelder. Coming from the father of TeV gamma-ray astronomy, *Very High Energy Gamma-Ray Astronomy* will prove a worthy addition to such company.

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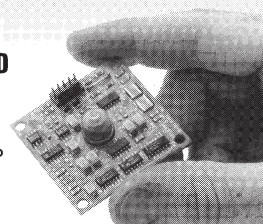
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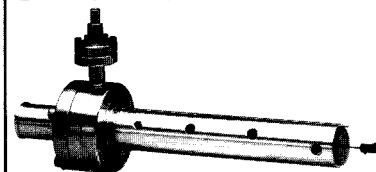
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