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Sommario/riassunto	This book describes the groundbreaking work of Chaim Leib Pekeris and his collaborators. Between 1955 and 1963 they used the first electronic computer built in Israel, the Weizmann Automatic Computer (WEIZAC), to develop powerful numerical methods that helped achieve new and accurate solutions of the Boltzmann equation, calculate energy levels of the helium atom, produce detailed geophysical and seismological models derived from the study of the free oscillations of the earth, and refine models used to predict meteorological phenomena and global oceanic tides. This book provides a unique account of the pioneering work of Chaim L. Pekeris in applied mathematics and explains in detail the background to the rise of the Weizmann Institute as a world-class center of scientific excellence. This hitherto untold story is of great interest to historians of twentieth-century science with special emphasis on the application of computer-assisted numerical methods in various branches of mathematical

physics.