1. Record Nr. UNINA9910580208903321 Autore Karwasz Grzegorz Piotr Titolo Electron Scattering in Gases - from Cross Sections to Plasma Modeling Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022 Pubbl/distr/stampa Descrizione fisica 1 electronic resource (304 p.) Soggetti Research & information: general **Physics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto The first experiments on electron scattering were completed before the "official" discovery of this particle by J. J. Thomson. In spite of this, our knowledge of cross sections is still far from complete. More recent experiments had some unexpected results, like selective fragmentation of DNA constituents by low-energy electrons, or "reverse" phenomena, i.e., synthesis of simple amino acids from inorganic precursors, triggered by slow electrons. The most recent need for cross sections comes from modeling plasmas for industrial and thermonuclear applications, and atmospheres of solar and extra-solar planets. Both

fundamental research (experiments, theory, reviews) and applications of electron-scattering cross sections in various processes are welcome.