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Nota di contenuto	pt. 1. Collisionless shock theory -- pt. 2. Applications : two kinds of collisionless shocks in the heliosphere.
Sommario/riassunto	The present book provides a contemporary systematic treatment of shock waves in high-temperature collisionless plasmas as are encountered in near Earth space and in Astrophysics. It consists of two parts. Part I develops the complete theory of shocks in dilute hot plasmas under the assumption of absence of collisions among the charged particles when the interaction is mediated solely by the self-consistent electromagnetic fields. Such shocks are naturally magnetised implying that the magnetic field plays an important role in their evolution and dynamics. This part treats both subcritical shocks, which dissipate flow energy by generating anomalous resistance or viscosity, and supercritical shocks. The main emphasis is, however, on super-critical shocks where the anomalous dissipation is insufficient to retard the upstream flow. These shocks, depending on the direction of the upstream magnetic field, are distinguished as quasi-perpendicular and quasi-parallel shocks which exhibit different behaviours, reflecting particles back upstream and generating high electromagnetic wave intensities. Particle acceleration and turbulence at such shocks become possible and important. Part II treats planetary bow shocks and the

famous Heliospheric Termination shock as examples of two applications of the theory developed in Part I.

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