Collisionless Plasmas in Astrophysics
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DESCRIPTION
Collisionless Plasmas in Astrophysics examines the unique properties of media without collisions in plasma physics. Experts in this field, the authors present the first book to concentrate on collisionless conditions in plasmas, whether close or not to thermal equilibrium. Filling a void in scientific literature, Collisionless Plasmas in Astrophysics explains the possibilities of modeling such plasmas, using a fluid or a kinetic framework. It also addresses common misconceptions that even professionals may possess, on phenomena such as "collisionless (Landau) damping". Abundant illustrations are given in both space physics and astrophysics.

ABOUT THE AUTHOR
Gerard Belmont works as a "Directeur de Recherches" at the French CNRS for twenty years. He is a specialist of collisionless media, and their description through kinetic and fluid theories.

Roland Grappin is Astronomer at the Paris Observatory since 1979. His scientific activity covers turbulence in fluids and plasmas, dynamics of the solar wind, corona and transition region.

Fabrice Mottez is a scientist at the Paris Observatory. He has devoted his career to collisionless space plasmas, the terrestrial and Jovian magnetospheres, fundamental plasma physics, and numerical simulation.
Filippo Pantellini is a scientist at the Paris Observatory. His main research fields cover the theoretical and numerical investigation of collisionless and weakly collisional space plasmas, with a particular interest for the solar wind and the solar corona.

Guy Pelletier is a professor at the University Joseph Fourier in Grenoble. He founded the theoretical group of the Laboratory for Astrophysics. He accessed to all the levels of professorship and got the status of Emeritus Professor in 2009.

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