

| | |
|-------------------------|---|
| 1. Record Nr. | UNINA9910300387103321 |
| Autore | Huebner Walter F |
| Titolo | Opacity / / by Walter F. Huebner, W. David Barfield |
| Pubbl/distr/stampa | New York, NY : , : Springer New York : , : Imprint : Springer, , 2014 |
| ISBN | 1-4614-8797-8 |
| Edizione | [1st ed. 2014.] |
| Descrizione fisica | 1 online resource (582 p.) |
| Collana | Astrophysics and Space Science Library, , 0067-0057 ; ; 402 |
| Disciplina | 535.3 |
| Soggetti | Astronomy Astronomy—Observations Astronomy, Observations and Techniques |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Definitions -- Atomic and Molecular Structure -- Equation of State -- Radiative Cross Sections -- Continuum transitions -- Bound-Bound Transitions -- Electron Conduction -- Equations of State and Opacities for Mixtures -- Limits, Approximations, Scaling, and Interpolation -- Uncertainties in Models, Methods, and Calculations. |
| Sommario/riassunto | The interaction of radiation with matter is a fundamental process in the universe; in particular, the absorption and scattering of radiation by matter (the opacity) govern the formation, evolution, and structure of stars and planets. But opacity is also important in many terrestrial applications in which radiation is the dominant means of energy transfer, such as controlled nuclear-fusion, laser ablation, atmospheric entry and reentry, and the "greenhouse" effect. This book covers all aspects of opacity and equations of state for plasmas, gases, vapors, and dust and emphasizes the continuous transformation of phases and molecular compositions with changing density and temperature under conditions of local thermodynamic equilibrium (LTE) while preserving the basic abundances of the chemical elements in a mixture. |