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Nota di contenuto	1. Energy in planetary processes and the First Law of Thermodynamics -- 2. Energy sources in planetary bodies -- 3. Energy transfer processes in planetary bodies -- 4. The Second Law of Thermodynamics and thermodynamic potentials -- 5. Chemical equilibrium: using composition as a thermodynamic variable -- 6. Phase equilibrium and phase diagrams -- 7. Critical phase transitions -- 8. Equations of state for solids and the internal structure of terrestrial planets -- 9. Thermodynamics of planetary volatiles -- 10. Melting in planetary bodies -- 11. Dilute solutions -- 12. Non-equilibrium thermodynamics and rates of natural processes -- 13. Topics in atmospheric thermodynamics and radiative energy transfer -- 14. Thermodynamics of life.
Sommario/riassunto	This textbook provides an intuitive yet mathematically rigorous introduction to the thermodynamics and thermal physics of planetary

processes. It demonstrates how the workings of planetary bodies can be understood in depth by reducing them to fundamental physics and chemistry. The book is based on two courses taught by the author for many years at the University of Georgia. It includes 'Guided Exercise' boxes; end-of-chapter problems (worked solutions provided online); and software boxes (Maple code provided online). As well as being an ideal textbook on planetary thermodynamics for advanced students in the Earth and planetary sciences, it also provides an innovative and quantitative complement to more traditional courses in geological thermodynamics, petrology, chemical oceanography and planetary science. In addition to its use as a textbook, it is also of great interest to researchers looking for a 'one stop' source of concepts and techniques that they can apply to their research problems.