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| Descrizione fisica | 1 online resource (406 pages) : illustrations (some color) |
| Collana | Manchester Physics Series |
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| Soggetti | Power resources<br>Renewable energy sources<br>Physics |
| Lingua di pubblicazione | Inglese |
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| Livello bibliografico | Monografia |
| Note generali | Includes index. |
| Nota di contenuto | The atomic nucleus -- Nuclear power -- Solar power -- Semiconductor solar cells -- Wind power -- Water power -- Energy storage. |
| Sommario/riassunto | "The aim of this textbook is to equip the reader with an in-depth knowledge of energy generation that transcends current conventional methods of extracting from fossil fuels. Each chapter contains thorough analyses into alternative energy generation, focussing on the physical principles, commonalities and complementary features, in addition to basic thermodynamic considerations, of energy sources and techniques, including: - Nuclear Power - fission, fusion, plasma heating, magnetic confinement and radiation - Solar Power - fusion in stars, proton-proton cycle and blackbody radiation - Wind Power -- production and efficiency - Water Power -- wave motion - Hydroelectric/geothermal power The Physics of Energy Sources includes well-informed estimates of future global energy requirements and consumption, including efficiency levels of power production, energy transportation and storage relative to the function of time. Important environmental issues are tackled through discussions about |

the advantages and disadvantages of each method. The worked examples, sets of problems and worked solutions act as valuable references for both student and professional"--