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Sommario/riassunto	With the increasing world-energy demand there is a growing necessity for clean and renewable energy. The sun being one of the most abundant potential sources accounts for less than 1% of the global energy supply. The market for solar cells is one of the most strongly increasing markets, even though the prize of conventional solar cells is still quite high. New emerging technologies, such as organic and hybrid solar cells have the potential to decrease the price of solar energy drastically. This book offers an introduction to these new types of solar cells and discusses fabrication, different architectures and their device physics on the bases of the author's teaching course on a master degree level. A comparison with conventional solar cells will be given and the specialties of organic solar cells emphasized.