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4.3.3 Addition of a front HT-EBL and back ET-HBL  
4.3.4 Addition of a front high-low junction; 4.3.5 A p-i-n cell with a front HT-EBL and back ET-HBL; 4.3.6 A p-i-n cell using a poor absorber; 4.4 Analysis of Homojunction Device Physics: Analytical Approach; 4.4.1 Basic p-n homojunction; 4.5 Some Homojunction Configurations; References; Chapter 5 Semiconductor-semiconductor Heterojunction Cells; 5.1 Introduction; 5.2 Overview of Heterojunction Solar Cell Device Physics; 5.2.1 Transport; 5.2.2 The heterojunction barrier region; 5.3 Analysis of Heterojunction Device Physics: Numerical Approach  
5.3.1 Absorption by free electron-hole pair excitations  
5.3.2 Absorption by exciton generation; 5.4 Analysis of Heterojunction Device Physics: Analytical Approach; 5.4.1 Absorption by free electron-hole excitations; 5.4.2 Absorption by excitons; 5.5 Some Heterojunction Configurations; References; Chapter 6 Surface-barrier Solar Cells; 6.1 Introduction; 6.2 Overview of Surface-barrier Solar Cell Device Physics; 6.2.1 Transport; 6.2.2 The surface-barrier region; 6.3 Analysis of Surface-barrier Device Physics: Numerical Approach; 6.4 Analysis of Surface-barrier Device Physics: Analytical Approach  
6.5 Some Surface-barrier Configurations

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## Sommario/riassunto

There has been an enormous infusion of new ideas in the field of solar cells over the last 15 years; discourse on energy transfer has gotten much richer, and nanostructures and nanomaterials have revolutionized the possibilities for new technological developments. However, solar energy cannot become ubiquitous in the world's power markets unless it can become economically competitive with legacy generation methods such as fossil fuels. The new edition of Dr. Stephen Fonash's definitive text points the way toward greater efficiency and cheaper production by adding coverage of cutting-ed

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