

Contents

Introduction	1
Jorge Aguilera	
Multijunction Concentrator Solar Cells: Analysis and Fundamentals	9
Eduardo F. Fernández, Antonio J. García-Loureiro and Greg P. Smestad	
Characterization of Multijunction Concentrator Solar Cells	39
César Domínguez and Pablo García-Linares	
High-Concentration Optics for Photovoltaic Applications	85
Katie Shanks, Sundaram Senthilarasu and Tapas K. Mallick	
The High-Concentrator Photovoltaic Module	115
P. Rodrigo, L. Micheli and F. Almonacid	
Modeling of High-Concentrator Photovoltaic Systems for Utility-Scale Applications	153
Yong Sin Kim	
Shading in High-Concentrator Photovoltaic Power Plants	177
P. Rodrigo, S. Gutiérrez and L.A. Guerrero	
High-Concentrator Photovoltaic Systems Configuration and Inverters	209
Emilio Muñoz-Cerón, Francisco J. Muñoz-Rodríguez, Juan de la Casa and Pedro Pérez-Higueras	

Efficiencies and Energy Balance in High-Concentrator Photovoltaic Devices	239
Francisco J. Muñoz-Rodríguez, Emilio Muñoz-Cerón, Flores Almonacid and Eduardo F. Fernández	
Solar Resource for High-Concentrator Photovoltaic Applications.	261
José A. Ruiz-Arias and Christian A. Gueymard	
Standards for Testing High-Concentrator Photovoltaic Modules	303
I. Petrina, A.B. Cueli, J. Díaz, J. Moracho and A.R. Lagunas	
Applications of ANNs in the Field of the HCPV Technology	333
Flores Almonacid, Adel Mellit and Soteris A. Kalogirou	
Building-Integration of High-Concentration Photovoltaic Systems	353
Daniel Chemisana and Aggelos Zacharopoulos	
Analysis of Present and Future Financial Viability of High-Concentrating Photovoltaic Projects	377
Steve Tomosk, David Wright, Karin Hinzer and Joan E. Haysom	
Economic Evaluation of High-Concentrator Photovoltaic Systems	401
D.L. Talavera and G. Nofuentes	
High-Concentrator Photovoltaic Power Plants: Energy Balance and Case Studies	443
Pedro Pérez-Higueras, Francisco J. Muñoz-Rodríguez, Carlos Adame-Sánchez, Leocadio Hontoria-García, Catalina Rus-Casas, Antonio González-Rodríguez, Juan D. Aguilar-Peña, Francisco J. Gallego-Álvarez, Ivan González-Luchena and Eduardo F. Fernández	

High Concentrator Photovoltaics
Fundamentals, Engineering and Power Plants
Pérez-Higueras, P.; Fernández, E.F. (Eds.)
2015, IX, 477 p. 217 illus., Hardcover
ISBN: 978-3-319-15038-3