



## Back Reflectors for Amorphous Silicon Based Thin Film Solar Cells (Paperback)

By Xiesen Yang

VDM Verlag, Germany, 2010. Paperback. Condition: New. Language: English . Brand New Book. In this Book, back reflectors for hydrogenated amorphous silicon and hydrogenated nanocrystalline silicon based solar cells have been systematically studied. 1) By using the optical scattering theory and PVOPTICS simulation program, it is found that to characterize the texture of the BR, not only texture height, but also the texture angle is needed. It has been deduced that the light trapping scheme with ideal rough BR should have an effective light path enhancement factor of  $n(n+1)^2$  in the absorption media, rather than  $4n^2$ , the generally quoted value in references. 2) This work studied optical and textural properties of Al and Ag deposited at various condition. On the basis of the studies, a stacked configuration of ZnO/Ag/Al BR has been proposed. It shows a higher performance than ZnO/Ag and ZnO/Al structure. High quality ZnO films and ZnO/Ag interface are studied. No obvious inter-diffusion and chemical reaction at the interface of Ag with ZnO are observed. 3) Using optimized BR with ZnO/Ag/Al/SS structure, a-Si:H/a-SiGe:H/nc-Si:H triple junction solar cells have been fabricated, with a high efficiency up to 12.5 .



[READ ONLINE](#)  
[ 7.26 MB ]

### Reviews

*Definitely among the finest pdf I actually have at any time read through. It is one of the most amazing pdf i actually have study. I discovered this ebook from my i and dad recommended this pdf to find out.*

-- **Turner Stiedemann**

*This is the finest publication we have read through right up until now. Better then never, though i am quite late in start reading this one. Its been written in an remarkably easy way in fact it is only after i finished reading through this book by which basically altered me, affect the way i think.*

-- **Dr. Gabriella Hayes**