



## High Efficiency Narrow Gap and Tandem Junction Devices: Final Technical Report

By National Renewable Energy Laboratory (NREL)

Bibliogov, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The work described in this report uses a modified pulsed plasma-enhanced chemical vapor deposition (PECVD) technique that has been successfully developed to fabricate state-of-the-art nc-Si materials and devices. Specifically, we have achieved the following benchmarks: nc SiH device with an efficiency of 8 achieved at a deposition rate of 1 A/s; nc SiH device with an efficiency of 7 achieved at a deposition rate of 5 A/s; large-area technology developed using pulsed PECVD with uniformity of +/-5 over 25 cm x 35 cm; devices have been fabricated in the large-area system (part of Phase 3); an innovative stable four-terminal (4-T) tandem-junction device of  $h > 9$  fabricated. (Note that the 4-T device was fabricated with existing technology base and with further development can reach stabilized  $h$  of 12); and with improvement in Voc 650 mV, from the current value of 480 mV can lead to stable 4-T device with  $h > 16$ . Toward this objective, modified pulsed PECVD was developed where layer-by-layer modification of nc-SiH has been achieved. (Note that due to budget cuts at NREL, this project was...



[READ ONLINE](#)  
[ 7.24 MB ]

### Reviews

*An incredibly wonderful book with perfect and lucid explanations. It normally is not going to price a lot of. I am just very happy to tell you that this is the greatest pdf we have go through within my personal lifestyle and could be he finest book for at any time.*

-- **Bart Lowe**

*This is basically the greatest pdf i actually have go through till now. It is definitely simplistic but surprises within the fifty percent in the ebook. I am easily will get a delight of studying a published ebook.*

-- **Hyman O'Conner III**