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Shaocong Hou

# Fiber Solar Cells

Materials, Processing and Devices

Doctoral Thesis accepted by  
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 Springer

*Author*

Dr. Shaocong Hou  
Department of Polymer Science  
and Engineering, College of Chemistry  
and Molecular Engineering  
Peking University  
Beijing  
China

*Supervisor*

Prof. Dechun Zou  
Department of Polymer Science  
and Engineering, College of Chemistry  
and Molecular Engineering  
Peking University  
Beijing  
China

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# Supervisor's Foreword

Last decades have witnessed the dramatic development of flexible electronics. Among them, the dream of flexible solar textile has been stimulating researchers to pursue solar cells in fiber shape, but the breakthrough process happened only after the unique twisted structure of double fiber working and counterelectrodes was proposed in 2008. However, the photovoltaic performance of early generation prototype devices was far from that of flexible planar solar cells, and the fundamental mechanism under the devices was urgently to be unearthed.

Dr. Shaocong Hou contributed his creativity to solve these challenging issues with rational design of materials, electrodes and devices, which will be comprehensively and systematically presented in his thesis. I would like to mark his significant contributions to the development of fiber solar cells. First, he developed an unique fiber electrode fabrication technology, which not only pushes the photovoltaic performance forward, but also provides a possibility for large-scaling production, exploration of unique properties, and in-depth research on theory of fiber solar cells. Second, Dr. Shaocong Hou carried comprehensive investigations on fiber counter electrodes and widened the materials from noble metals Pt or Au wires to low-cost polymer and carbon materials, which is important for practical application. It is also worthy to notify that the design concept, process technology, characterization, and theory analysis of fiber solar cells could be expanded to other fiber electronic devices.

Beijing, China  
December 2016

Prof. Dechun Zou

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