

Two-Dimensional Modeling of Interdigitated Back Contact Silicon Heterojunction Solar Cell

- Objective
 - High efficiency: cell > 24% , module > 20%
 - Low cost and low temperature deposition
- Combines features of two highest efficiency technologies

**Silicon (a-Si/c-Si)
Heterojunction (SHJ)**

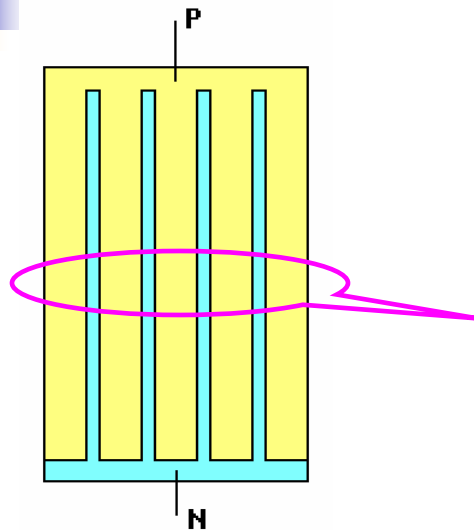
Interdigitated Back contact (IBC)

**Interdigitated Back Contact Si Heterojunction
(IBC-SHJ) Solar Cell**

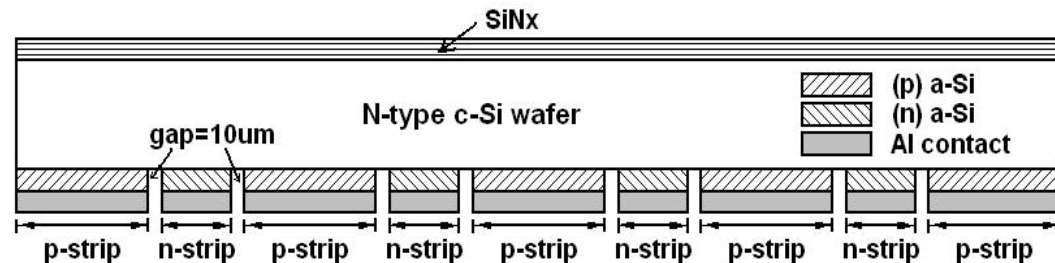
- Two-dimensional modeling is essential for development



Two-Dimensional Modeling of Interdigitated Back Contact Silicon Heterojunction Solar Cell



Bottom view



Cross view

This poster

- First simulation study on 2D heterojunction solar cells
- Some modeling results
 - Effect of front surface passivation
 - Effect of strips dimension
 - Light beam induced current (LBIC) line scan

