

Improvement of Cu(In,Ga)Se₂ Solar Cells with surface treatment

Background

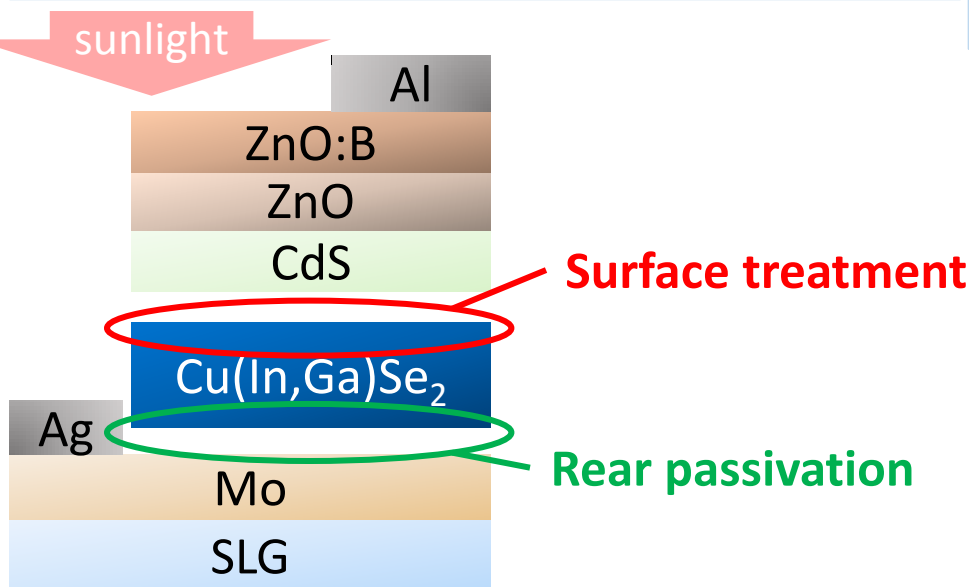
Cu(In,Ga)Se₂ (CIGS) solar cells can absorb enough light even if thin layer because of high absorption coefficient. However, recombination at front and back interface is remarkable and can't be ignored. To reduce interface recombination, we focus on surface treatment reported in study of Cu₂ZnSn(S,Se)₄ solar cells and rear passivation used for Si solar cells.

Objective

Study of higher V_{OC} and FF by surface treatment and rear passivation.

Research Plans

- To apply thiourea treatment to CIGS surface.
- To realize high V_{OC} with tunnel passivated contact structure. Al₂O₃ or SiO₂ is used as a passivation layer.



Kento Furuta (M2)



Motoki Watanabe (M1)