

Thermodynamic Control of Stoichiometry-Induced Defects in Photovoltaic Materials

Disclosure Number

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Technology Summary

Manufacturers of solar cells have had significant difficulty scaling up various processes, i.e., reproducing the performance that they have achieved in the laboratory on a manufacturing/production scale. The present invention comprises a system to both measure the thermodynamic properties of solar materials and provide inherent, stoichiometric control during photovoltaic film growth. The capability to have this type of control over composition and defects has the potential revolutionize the solar energy industry. The present invention can also be extended to other applications requiring materials with high vapor pressures, such as Mg, Li, and Al, for example.

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