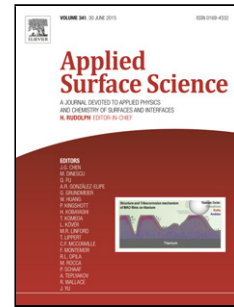


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Experimental scheme for a stable molybdenum bilayer back contacts for photovoltaic applications

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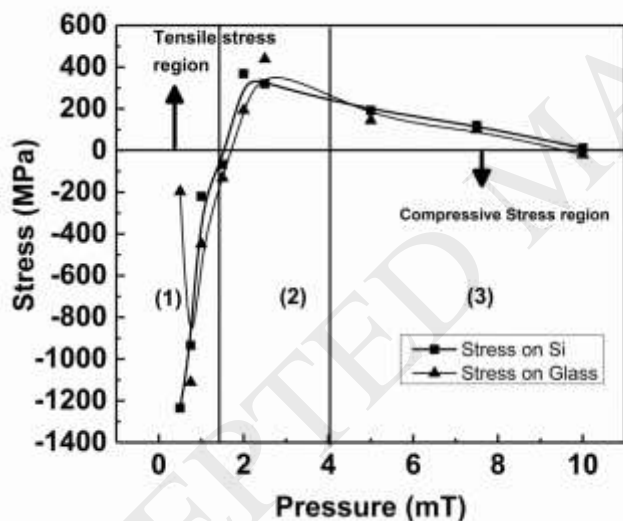
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Graphical Abstract

Stress of single layer Mo films on SLG and Si wafers under different deposition pressures



Research Highlights

1. in-situ stress evolution of molybdenum bilayer films from room temperature to 500 °C indicating the reason for stress hysteresis upon thermal cycling
2. Optimized bilayer with proper selection of thickness and pressure for a stable back contact for photovoltaic application.
3. Nano needle morphology for Mo bilayer is optimized for a large number of nucleation sites for subsequent absorber layer deposition
4. The device quality MoSe₂ phase formation confirmed from CIGS and CZTS device fabrication.

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