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## Development of Tandem Perovskite Solar Cells

In the recent past, the perovskite materials have shown remarkable performance as one of the most promising materials for photovoltaic applications. This is mainly due to the material's excellent light absorption and suitable carrier diffusion lengths, resulting in high device efficiencies with significant opportunities to realize low-cost technology. This study aims investigate the development of perovskite solar cells in tandem with silicon-based solar cells. Inorganic perovskite oxides and halide materials will be used to prepare hybrid organic-inorganic thin films. Using the one-step and two-step methods the films are deposited onto a silicon-based solar cell. To assess the quality of the solar cells photoluminescence will be used to estimate the minority carrier lifetime. Higher carrier lifetime result in improved open-circuit voltages. The current-voltage measurements are performed on the perovskite tandem solar cells.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

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