**Introduction**

We target a major challenge of understanding and measuring the thermal transport in 2D materials, their nanostructures and the heterostructures. We employ a nanoscale scanning thermal microscopy (SThM) under high vacuum (HV) conditions to directly map the thermal transport in exfoliated InSe flakes and InSe nano-wedge structures.

**Methodology**

SThM can map the effective thermal resistance (inverse of thermal conductance) of Graphene, MoS$_2$ and Graphene/MoS$_2$ heterostructures.

**Results**

We use SThM to image and quantify the nanoscale thermal transport from single to few-layer to bulk InSe flakes in high vacuum (HV) of $10^{-6}$ torr.

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