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Contribution ID: 3097

Type: Oral not-in-competition (Graduate Student) / Orale non-compétitive (Étudiant(e) du 2e ou 3e cycle)

## Scanning Tunneling Microscopy and Spectroscopy of a Graphene-rhenium Disulfide Heterostructure at Low Temperature

*Monday 6 June 2022 14:30 (15 minutes)*

Vertical stacking of atomically thin materials offers a large platform for realizing novel properties enabled by proximity effects and moiré patterns. Here, a van der Waals heterostructure consisting of monolayer graphene on in-plane anisotropic layered semiconductor  $\text{ReS}_2$  is prepared using dry-transfer technique. Locally resolved topographic images reveal a striped superpattern originating in the interlayer interactions between graphene's hexagonal structure and the triclinic, low in-plane symmetry of  $\text{ReS}_2$ . Scanning tunneling spectroscopy at low temperature is used to characterize the modulation of the local density of states by this moiré pattern. These results shed light on the complex interface phenomena between van der Waals materials with different lattice symmetries.

**Authors:** PLUMADORE, Ryan (University of Ottawa); Prof. LUICAN-MAYER, Adina (University of Ottawa)

**Presenter:** PLUMADORE, Ryan (University of Ottawa)

**Session Classification:** M2-7 Low Dimensional Materials and Heterostructures (DCMMP) | Matériaux à basse dimension et hétérostructures (DPMCM)

**Track Classification:** Technical Sessions / Sessions techniques: Condensed Matter and Materials Physics / Physique de la matière condensée et matériaux (DCMMP-DPMCM)