



Contribution ID: 318

Type: **Focus session invited talk**

Theory of exciton condensation in graphene

Monday 1 December 2025 11:00 (30 minutes)

A possible exciton condensation in monolayer graphene had been widely discussed/predicted in theoretical literature and never observed before. Clearly something is wrong with the conventional theoretical approach. Recent STM data indicate opening of a gap in the metal decorated monolayer graphene near the Dirac point. The ratio of the gap over the critical temperature is about 100. I argue that this is a two dimensional exciton condensation, present a model of the phenomenon and explain why the metal decoration is crucial .

Presenter: SUSHKOV, Oleg (University of New South Wales)

Session Classification: Focus Session - From edge states to emergent phases