

Symposium Interactions and Spin in 2D Heterostructures (SYIS)

jointly organized by
 the Low Temperature Division (TT),
 the Surface Science Division (O),
 the Thin Films Division (DS),
 the Crystalline Solids and their Microstructure Division (KFM),
 the Magnetism Division (MA), and
 the Semiconductor Physics Division (HL)

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Van-der-Waals heterostructures based on two-dimensional (2D) layered materials provide a very exciting platform to engineer and control electronic, magnetic, and optical properties. Recently, fascinating discoveries have been reported, opening new venues for investigations, while also drawing attention of researchers from more traditional, 3D physics, to the 2D realm. Of particular importance is the observation of superconductivity and Mott-insulator physics in twisted graphene bilayer, as well as of ferromagnetism in 2D materials. There has been exciting progress in the physics of Dirac electrons confined in quantum dots and in the spin proximity physics in 2D heterostructures. Finally, even the rather well investigated physics of optical excitations in 2D gets a strong boost by observing new phenomena due to interlayer excitons. The aim of this symposium is to present an overview of those recent developments by leading experts in this forefront area of condensed matter physics.

Overview of Invited Talks and Sessions

(Lecture hall H1)

Invited Talks

SYIS 1.1	Thu	15:00–15:30	H1	Magic Angle Graphene: a New Platform for Strongly Correlated Physics — •PABLO JARILLO-HERRERO
SYIS 1.2	Thu	15:30–16:00	H1	Bilayer Graphene Quantum Devices — •KLAUS ENSSLIN
SYIS 1.3	Thu	16:00–16:30	H1	Light-Matter interaction in van der Waals heterostructures — •TOBIAS KORN
SYIS 1.4	Thu	16:45–17:15	H1	Spin transport in Van der Waals materials and heterostructures — •BART VAN WEES
SYIS 1.5	Thu	17:15–17:45	H1	Flipping the valley in graphene quantum dots — •MARKUS MORGENSTERN

Sessions

SYIS 1.1–1.5	Thu	15:00–17:45	H1	Interactions and Spins in 2D Heterostructures
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