

Symposium Physics of van der Waals 2D Heterostructures (SYHS)

jointly organised by
 the Low Temperature Physics Division (TT),
 the Semiconductor Physics Division (HL),
 the Surface Science Division (O),
 the Magnetism Division (MA), and
 the Thin Films Division (DS)

Christoph Stampfer
 RWTH Aachen University
 II. Physikalisches Institut
 Templergraben 55
 52062 Aachen
 stampfer@physik.rwth-aachen.de

Jaroslav Fabian
 Universität Regensburg
 Institut I – Theoretische Physik
 Universitätsstraße 31
 93053 Regensburg
 jaroslav.fabian@ur.de

Van der Waals heterostructures based on 2D layered materials provide an exciting platform to engineer and control electronic, transport, optical properties, spin, and magnetic properties. Many exciting phenomena have been reported in stacked materials coupled by weak van der Waals interactions. Perhaps most spectacular are strong correlations and superconductivity in graphene and transition-metal dichalcogenides multilayers. Also in the exciton physics, there is a trend towards investigating signatures of many-body effects. New directions of research include searches for novel topological states, investigations of spin and magnetic proximity effects, strain physics, or studying magnetic excitations. The aim of this symposium is to present an overview of some of the recent developments in this field by leading experts in this forefront area of condensed matter physics.

Overview of Invited Talks and Sessions

(Lecture hall HSZ 01)

Invited Talks

SYHS 1.1	Fri	9:30–10:00	HSZ 01	Novel moiré excitons and ultrafast optical dynamics in van der Waals 2D heterostructures — ●STEVEN G. LOUIE
SYHS 1.2	Fri	10:00–10:30	HSZ 01	Interaction induced magnetism in 2D semiconductor moiré superlattices — ●XIAODONG XU
SYHS 1.3	Fri	10:30–11:00	HSZ 01	Ions in tight places: intercalation and transport of ions in van der Waals heterostructures — ●IRINA GRIGORIEVA
SYHS 1.4	Fri	11:15–11:45	HSZ 01	Spin-orbit proximity in van der Waals heterostructures — ●FELIX CASANOVA
SYHS 1.5	Fri	11:45–12:15	HSZ 01	Plethora of many-body ground states in magic angle twisted bilayer graphene — ●DMITRI EFETOV

Sessions

SYHS 1.1–1.5	Fri	9:30–12:15	HSZ 01	Physics of van der Waals 2D Heterostructures
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