

SKM-Symposium Topological Insulators (SKM-SYTI)

jointly organized by
 the Magnetism Division (MA),
 the Semiconductor Physics Division (HL), and
 the Low Temperature Physics Division (TT)

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Before 1980 all states of matter in condensed matter systems could be classified by the principle of broken symmetry. The Quantum-Hall state provided then the first example of a quantum state that has no spontaneously broken symmetry. Its behavior depends only on its topology and not on its specific geometry; it was topologically distinct from all previously known states of matter.

The prediction in 2006 and experimental discovery in 2007 of a new class of materials known as topological insulators is a major recent event in condensed-matter physics. This symposium gives an overview over these materials, where spin-orbit coupling and time-reversal symmetry combine to form such a novel state of matter, predicted to have exciting new properties, both concerning basic physical questions and applications.

Overview of Invited Talks and Sessions

(lecture room TRE Ma)

Invited Talks

SKM-SYTI 1.1	Wed	10:30–11:00	TRE Ma	Topological insulators and topological superconductors — •SHOUCHENG ZHANG
SKM-SYTI 1.2	Wed	11:00–11:30	TRE Ma	Dirac Fermions in HgTe Quantum Wells — •LAURENS MOLENKAMP
SKM-SYTI 1.3	Wed	11:30–12:00	TRE Ma	Interaction, disorder, and quantum criticality in Z_2 topological insulators — •ALEXANDER MIRLIN
SKM-SYTI 1.4	Wed	12:00–12:30	TRE Ma	Disorder and Interactions in Topological Insulators — •ALLAN H. MACDONALD
SKM-SYTI 1.5	Wed	12:30–13:00	TRE Ma	Tunable multifunctional topological insulators in ternary Heusler and related compounds — •CLAUDIA FELSER, STANISLAV CHADOV, LUKAS MÜCHLER, JÜRGEN KÜBLER, SHOU CHENG ZHANG, XIAOLIANG QI, HAI-JUN ZHANG

Sessions

SKM-SYTI 1.1–1.5	Wed	10:30–13:00	TRE Ma	Topological Insulators
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