



## "Emergent Relativistic Effects in Condensed Matter - From Fundamental Aspects to Electronic Functionality"

### Project groups and projects

Project area A: Effective Dirac Fermions		
A01	C. Back, D. Bougeard, D. Schuh	Topological insulators: band structure engineering, interfaces and hybrid structures
A02	F. Giessibl, H. Ebert	Structure and conductivity of surfaces on topological
A03	F. Evers	Charge dynamics and transport in grains of topological matter
A04	S. Ganichev	Terahertz spectroscopy of Dirac fermion systems
A05	R. Huber, C. Lange	Ultrafast dynamics of Dirac fermions in topological insulators
A07	K. Richter, J.D. Urbina	Quantum transport and time-dependent dynamics of Dirac
A08	D. Weiss, C. Back	Spin-momentum locking in 3D topological insulators
A09	J. Eroms, J. Fabian	Controllable spin-orbit interaction in graphene
Project area B: Spin-Orbit Interaction Effects		
B01	F. Evers, J. Repp, D. Egger	Proximity induced spin-orbit coupling in atomic and molecular wires
B02	M. Grifoni, A. Donarini, R. Huber, J. Repp	Spin-orbit induced dynamics in driven molecular systems
B03	J. Lupton, S. Bange	Spin-orbit coupling in organic semiconductors
B04	C. Strunk, M. Grifoni, M. Marganska	Spin-orbit interaction in hybrid superconductor-1D systems
B05	J. Fabian, T. Korn, A. Chernikov	Monolayer dichalcogenides and their heterostructures: optospintronics, electronic properties, valley dynamics
B06	C. Schüller, T. Korn	Raman scattering in transition metal dichalcogenides
B07	J. Fabian	Spin-orbit and exchange proximity effects at interfaces
B08	C. Strunk, N. Paradiso	Spin-orbit effects in the supercurrent response of superconducting heterostructures and Josephson junctions
Central Projects		
MGK	C. Strunk, F. Evers	Integrated Research Training Group (IRTG)
Z	K. Richter, C. Back	Central tasks of the Collaborative Research Centre