DAY 4 (26 June): 10:50 – 11:30

Topological Aspects of the Spin Hall Effect

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The spin Hall effect is a generalization of the usual (charge) Hall effect, when spin degrees of freedom of the constituent particles of the condensed matter system as well as the spin dependent interactions are taken into account. In this talk I will review several works of collaborators and me on topological aspects of the spin Hall effect. Since the spin Hall effect happens in the absence of a magnetic field, so time-reversal symmetry is not broken. This will bring a few new features to the topological considerations in the theory of the spin Hall effect.