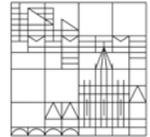


SFB 767

Seminar

Universität
Konstanz



Fr. 20.10.17
11:00
P 1138



Prof. Dr. Georgios Katsaros

Institute of Science and Technology Austria, Klosterneuburg

Holes are heavy, are they good?

In the past 10 years many groups have used electrons confined in group IV quantum dots in order to realize spin qubits [1]. Impressive progress in the extension of spin lifetimes has been achieved and record coherence times of about 1 second were reported for ^{31}P electrons in isotopically engineered ^{28}Si substrates [2]. Holes on the other hand are much less studied [3]. Theory predicts that holes can show similar spin lifetimes as electrons [4] and should be promising for creating long distance two qubit gates [5].

In this talk the focus will be on holes confined in Ge self-assembled hut wires [6]. Magnetotransport measurements of three terminal devices revealed a large g-factor anisotropy originating from the heavy-hole character of the confined states [7]. Recent results of charge sensing [8] and magnetotransport measurements of double quantum dot devices will be presented [9].

Contact:
G. Burkard, 5256



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