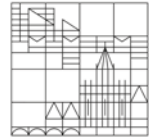


**SFB 767**

**Seminar**

Universität  
Konstanz



Jan 18, 2018  
15:30  
P 603



**Dr. Farshad Foroughi**

Institut NEEL CNRS, Grenoble (F)

### Circuit QED with Josephson junction chains

The kinetic inductance of a chain of Josephson tunnel junctions can be used as an element in designing new kind of quantum devices like Fluxonium [1]. Increased complexity and many degrees of freedom in the fluxonium qubit can be a limit on the coherence and relaxation time. However, when biased at sweet spot, fluxonium qubit outperform any other superconducting qubit [2]. We have realized different Fluxonium qubits in a 2D and 3D structure and found state of the art coherence and relaxation times. We observed an increase of the relaxation time both in 3D and 2D at the optimum point of the qubit, when dissipative quasi-particle tunneling is suppressed. In this talk I will present the latest results of on going measurements on Fluxonium qubits as well as other experiments utilizing Josephson junction chains.

Contact:  
Gianluca Rastelli, 3802



[1] V.E. Manucharyan et al., Science 326, 113 (2009)

[2] I.M. Pop et al., Nature 508, 369 (2014)

[sfb767.uni.kn](http://sfb767.uni.kn)