

Ioan Pop, KIT (SiUCs) - About AlOx interfaces and Aluminum superconducting device performance

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It is already well established that amorphous AlOx can host a zoo of spurious of two level systems, from positional defects to spin impurities. In this talk I will focus on other effects which can occur at the interface of AlOx with the Al electrodes in an SIS junction, or at the interface between a superconducting resonator and an in-situ grown para-Hydrogen crystal. The main conclusion of my talk is that we need to learn how to grow perfect dielectric crystals for junctions and custom dielectric layers for the capping of superconducting devices.