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Microwave Response in Short Superconducting Nanowires ROBERT DINSMORE, MYUNG-HO BAE, ALEXEY BEZRYADIN, Univeristy of Illinois at Urbana-Champaign — Short superconducting nanowires, of length L$\sim$100 nm, have been exposed to microwave radiation (MWR) giving rise to phase slip centers that do not appear in DC measurements, without MWR. For frequencies in the 100-1000 MHz range multiple voltage jumps are observed indicating multiple phase slip centers. Each such voltage plateau is characterized by a small differential resistance, of the order of 10-20 Ohms. In this frequency range zero crossing plateaus were also observed. For frequencies from 2 to 9 GHz, MWR had a synchronization effect on the superconducting phase rotation. Resonances are observed for integer and half integer orders, similar to the original observation of Anderson and Dayem on much larger superconducting bridges [1]. [1] Anderson and Dayem, Phys. Rev. Lett. V.13, p.195 (1964)

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