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**Systematic Study of magnetic Field Effects in Amorphous Solids at Ultra Low Temperatures.** LIDIYA POLUKHINA, SEUNGHWA RYU, DOUGLAS OSHEROFF, PHYSICS DEPARTMENT, STANFORD UNIVERSITY TEAM — The dielectric response of some amorphous solids below 100 mK is known to be sensitive to applied magnetic field. While a theoretical explanation for this phenomenon has been proposed, a systematic experimental study of different glasses in a broad parameter range is advised. We investigate and compare the behaviour of Suprasil, BK7, Aluminum-Barium-Silicate, Corning and Durane samples in the temperature range from 2 mK to 200 mK in presence of the magnetic field up to 30 milliTesla. In addition, we hope to find an amorphous solid whose dielectric constant shows no magnetic field dependence, making it suitable for thermometry in applied magnetic fields.

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