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## The Study of Microwave Power Effect and Anisotropic Effect in $\text{Ba}_{0.34}\text{K}_{0.64}\text{Fe}_2\text{As}_2$ (BaK122) Superconducting Single Crystal Using Non-Resonant Microwave Absorption Technique.

Thursday, 11 July 2019 15:00 (2 hours)

Non resonant microwave absorption technique at liquid helium temperature has been used to study the microwave power effect and anisotropic effect on the hysteresis loops of superconducting BaK122 single crystals measured at 9.4GHz below  $T_c$  (32 K). We have found a striking microwave power effect on the hysteresis loops that were measured and a strong anisotropy was found for the two distinct cases where magnetic field applied parallel and perpendicular to the Iron Arsenide plane. We interpret the wide and narrow hysteresis loops as due to the microwave power induced phase locking of several numbers of junctions into coherent groups and then the destruction of the phase locking by the applied DC field leading to the fluxon motion, which gives the loss in individual junctions belonging to these otherwise coherent groups.

Apply to be considered for a student award (Yes / No)?

NO

Level for award (Hons, MSc, PhD, N/A)?

N/A

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