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Optimizing Sample Preparation for Soft Point Contact Spectroscopy of Iron Pnictude Crystals[1] CAITLYN MCCONNELL, OBERON WACKWITZ, DESPINA NAKOS , LUKE CONOVER, University of the Sciences, GUOTAI TAN, YU SONG, CHENGLIN ZHANG, PENGCHENG DAI, RUI ZHANG, HU DING, Rice University, ROBERTO RAMOS, University of the Sciences — Point contact spectroscopy is a widely-used technique for measuring the energy gap of superconductors. Working with iron-based pnictides, particularly K-doped iron pnictide Ba(1-x)KxFe2As2, we have made electrical contact to crystal samples obtained from collaborators by applying a small amount of silver paint using a sharp-tipped wire. We have been moderately successful using this technique and report some results of measurements here. We report progress on ongoing efforts to optimize delivery of silver paint using a more controlled way that employs micro-pipettes. We also present details of how our conductance measurements are influenced by "fritting" which is a technique of tuning the point contact region through current impulses. All measurements were performed by undergraduate students.

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Caitlyn McConnell
University of the Sciences

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