Probing the low energy electronic structure of ZrTe$_5$ using elastoresistance measurements

JIUN-HAW CHU, JOSHUA MUTCH, University of Washington — ZrTe$_5$ has been known for its anomalous transport behavior for decades. Recent band structure calculations suggested that it is a quantum spin Hall insulator in the mono-layer form, and the bulk electronic structures topology sensitively depends on the interlayer coupling. In this work, we show results of elastoresistance measurements which revealed features that cannot be detected by the conventional magnetoresistance measurements. We will discuss its significance in the context of the low energy electronic structure of ZrTe$_5$. 

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