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Jordan Schettler*, jordan.schettler@sjsu.edu, and **Mitchell Chavarria**. *The Well-Tempered Guitar: An Undergraduate Research Project Inspired by Curved Frets.*

Anders Thidell has designed guitars with “curved frets” (i.e., not parallel line segments) that model irregular tuning systems which differ from the classical 12 tone equal temperament. These non-equally spaced scales were inspired by a tuning system of Bach for the harpsichord. We explain how one can quantify the efficacy of these designs from a mathematical perspective. This work was part of an undergraduate research group in the NSF funded PUMP program (Preparing Undergraduates through Mentoring towards PhDs). (Received September 26, 2017)