

Abstract Submitted
for the 4CS21 Meeting of
The American Physical Society

**Testing the Optical Properties of Perovskite and ZnCuInS/ZnS
Quantum Dots for Use in Optical and Microfluidic Environments¹**

DANIEL KING, JOHN COLTON, EMMA MCCLURE, DEREK SANCHEZ,
Brigham Young University — Semiconductor nanocrystals (quantum dots) can potentially be used as accurate temperature sensors for microfluidic systems. In previous research, our group used the emission spectra of cadmium telluride quantum dots to train a neural network to predict temperature. Building on that research, we have measured the emission spectra of perovskite quantum dots at various temperatures, and have determined they would unfortunately not be suitable for such an application, due to inconsistency in their optical spectra. We are now currently in the process of studying ZnCuInS/ZnS quantum dots to similarly determine their viability in filling this role.

¹Funded by the BYU Department of Physics and Astronomy

Daniel King
Brigham Young University

Date submitted: 10 Sep 2021

Electronic form version 1.4