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**Remote Investigation of the Photoconductivity Mechanisms of Methylammonium Lead Iodide Perovskite Thin Films** DAVID R. SPRENGER, JEFFREY S. DYCK, John Carroll University — Methylammonium lead iodide (MAPbI<sub>3</sub>) thin films are a promising alternative to conventional silicon for use in solar cells. While the photoconductivity of these materials has been well-studied, some details of their conductive behavior is not yet well-understood. Typically, photoconductivity is studied with the use of solar simulators. We make an extension to this approach by employing multiple narrow-band light emitting diode light sources and examine the intensity dependence in detail. During recent months of the pandemic, it was desirable to seek ways to acquire data remotely to the degree possible. A remote, automated approach allows for consistent data collection while also remaining within public health guidelines. In a preliminary analysis, the computer-automated data acquisition program offers promising results. In the future, the program can be used to better understand the connection between film degradation and the photoconductivity.

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