

# Growth and Characterization of $\text{CsPbX}_3$ Perovskite Semiconductor Crystals for Room Temperature Gamma-Ray Detectors

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## Abstract

In this paper we will present the latest growth and characterization of  $\text{CsPbX}_3$  crystals for room temperature gamma-ray detection and imaging. Material purification, synthesis, crystal growth from 16-mm to 35-mm diameter, sample preparation, and detector characterization will be presented. We have managed to grow single crystals, free of polarized planes, with resistivity  $> 6.0 \times 10^9 \Omega\text{-cm}$  and  $m_{t_h} > 2.0 \times 10^{-4} \text{ cm}^2/\text{V}$ .

## Acknowledgment

This work was supported in part by Defense Threat Reduction Agency Interaction of Ionizing Radiation in Materials University Research Alliance (DTRA IIRM URA) under Cooperative Agreement No. HDTRA1-20-2-0002, U.S. Air Force Office of Scientific Research Grant No. FA9550-22-1-0343 and the U.S. National Science Foundation Grant No. HRD-2112556.