



crystals



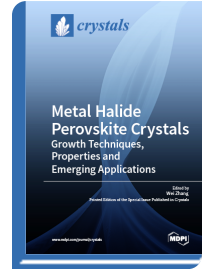
Special Issue Reprint

Metal Halide Perovskite Crystals: Growth Techniques, Properties and Emerging Applications

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In recent years, metal halide perovskites have emerged as a rising star among semiconductor materials owing to their low cost, solution processability, and fascinating combination of material properties enabling a broad range of energy applications. Accompanied by the unprecedented success in the photovoltaic community, which has witnessed a certified power conversion efficiency of 23.7%, rapid advancement has also been achieved in the areas of light-emitting diodes, lasers, photodetectors, and solar-to-fuel energy conversion devices. Beyond the dominant format of polycrystalline perovskite thin films for solar cell applications, recent progress in metal halide perovskite crystals, ranging from nanocrystals to macroscopic single-crystals, has spurred a great deal of both scientific and industrial interest. Great research efforts have endeavored to develop new techniques for crystal growth and investigate the physical and chemical properties of the materials and explore their emerging applications. These exciting achievements call for a rationalization of the different forms of perovskite semiconductors beyond the widely used polycrystalline thin films. In the current Special Issue, “Metal Halide Perovskite Crystals: Growth Techniques, Properties and Emerging Applications”, we aim to provide a forum for the discussion and presentation of recent advances in the fields of research related to metal halide perovskite crystals.



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