

Electrical properties of anion-doped copper iodide thin films

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Copper iodide (CuI) is promising p-type, wide-bandgap semiconductor. However, controllable acceptor doping of CuI remains a challenge. It is preliminary not feasible to introduce acceptor defects into CuI by commonly used cation-doping method concerning the monovalent Cu⁺ at the cation site. Here, we report on the recent progress of anion-doping of CuI thin films with S, Br or Cl. The transport mechanism, photoresponse and thermoelectric properties of the anion-doped CuI thin films have been investigated.