

Title: Charge Density and Optical Properties of the Halide Perovskite-based Solar Cell CsSnBr3

Name: [1]Karima Benyahia, [1]Mohamed Medjahdi

[1]Faculty of Sciences, Belhadj Bouchaib University of Temouchent. Algeria

The halide perovskites-based solar cells have been attractive due to their excellent power conversion efficiency and low cost. The structural, electronic and optical properties of Sn-based cesium halide perovskite CsSnBr3 are investigated based on density functional theory. The computed electronic structure reveals that this material exhibits semiconducting behavior. The charge density and energy gap of CsSnBr3 are also studied in different phases adopted by this material. The optical properties of the Sn-based halide perovskite compound are also investigated and indicate that this material can be effective candidate for solar cell applications.

Biography

Dr. Karima Benyahia is a Professor in the Department of Matter, Faculty of Sciences at Belhadj Bouchaib University of Temouchent since 2011. She has completed Postdoctoral studies from Galileo Galilei University . Padova, Italy in 2008. And later, Postdoctoral studies from Oslo (SINTEF). Oslo, Norway. Her research interests span Chemistry, Physics and Materials Science.

Presenting author details
Full name: Karima BENYAHIA
Contact number: 00213559359130
Twitter account:
Linked In account:
Session name/ number:
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