

A Comparison for Some Elastic and Mechanical Properties of Neptunium Dioxide

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Abstract : We report some elastic quantities of cubic fluorite type plutonium dioxide (PuO₂) with a recent EAM type interatomic potential through geometry optimization calculations. Typical cubic elastic constants, bulk modulus, shear modulus, young modulus and other related elastic quantities were calculated during present research. After present calculations, we have compared our results with the existing theoretical data of literature. Our results are consistent with previous theoretical findings of the considered parameters of PuO₂.

Keywords : PuO₂, elastic properties, bulk modulus, mechanical properties

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