

**SOLUTION AND APPLICATION OF FIRST ORDER POLYNOMIAL
MODULATED BY A SIMPLE EXPONENTIAL FUNCTION PAIR POTENTIAL
FOR BODY CENTERED CUBES**

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ABSTRACT

A first order polynomial modulated by a simple exponential function pair potential function was modeled and used to calculate the physical properties of body center cubes. The parameters of this potential function were calculated using the experimental values for the elastic constants, bulk modulus and the lattice constant of the metallic cubes. The equation of state and the elastic constants which were computed using this pair potential function agreed well with the experimental values for all the selected body center cubes.