

Analysis of the first Pressure Derivative of the Isothermal Bulk Modulus using the Brennan-Stacey, Ullmann-Pankov, and Vinet-Redberg Equations of State for MgO and CaO Solids

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Abstract: *In order to extend a prior study and derive accurate values for the and its initial pressure derivative, isothermal bulk modulus, the main objective of the current study is to analyse the link between the three EOSs. The three EOSs that are taken into account are the Vinet-Redberg, Walzer-Ullmann-Pankov, and Brennan-Stacey equations of state. We utilized all three EOS experiments in comparison for two solids. The compression and pressure range variation have been used to assess the applicability.*

Keywords: Brennan-Stacey equation of state, Ullmann –Pan'kov Equation of state and Vinet - Redberg.

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