

## Specific Heat Study of Distorted Iron based Superconductors

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**Abstract.** We have proposed here a mean field theoretical model in the coexistence of superconductivity and Jahn-Teller effect for the study of specific heat in iron based superconductors in presence of an external magnetic field. The superconducting gap and lattice strain energy expressions are calculated using the Zubarev's technique of double time electron Green's functions and solved numerically. The specific heat jump at the critical temperatures are observed.

**Keywords:** Iron pnictide superconductors, Jahn-Teller effect, Thermodynamic properties.

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