

## EXTENDED HOLSTEIN POLARON MASS

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### S u m m a r y

The renormalization of the effective mass of an electron due to the small polaron formation is studied within an extended Holstein model. It is assumed that an electron moves along a one-dimensional chain of ions and interacts with ions vibrations of the neighboring chain via a long-range density-displacement type force. By means of exact calculations, the renormalized mass of a nonadiabatic small polaron is obtained in the strong coupling limit. The obtained results are compared with analogous ones within the ordinary Holstein model. The effect of the polarization of vibrations of ions on the small polaron mass is discussed.