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Stability of Quasi-Two-Dimensional Bipolarons

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**Abstract:** The stability criteria of quasi-two-dimensional bipolarons have been studied within the framework of strong coupling and path-integral theories. It is shown that the critical values of the electron-phonon coupling constant ( $\alpha$ ), and the ratio of dielectric constants ( $\eta = \epsilon_{\infty}/\epsilon_0$ ) exhibit some non-trivial features as the effective dimensionality is tuned from three to two.

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