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On the differences between theories of conventional and high temperature superconductors

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After years of successful application of the pseudo and model potential representation of electronphonon interaction to conventional (BardeenCooperSchrieffer) theory of superconductivity, we have developed a generalization (called “isosuperconductivity”) that not only explains the differences between conventional and highTc in the cuprates and other materials but has enough predictive power to permit the current search for room temperature superconductors. We present a review of more than 30 years of effort and progress report on current research activities in this field.