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## PT-Symmetric $\phi^3$ and $\phi^4$ theories: properties and intriguing results.

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The renormalization group properties of a PT-symmetric  $\phi^3$  theory are discussed and compared to the corresponding properties of the conventional theory. In  $d=6$  dimensions, the theory turns out to be energetically stable, perturbatively renormalizable, and trivial (the conventional one being asymptotically free and unstable). Moreover, in  $d = 6 - \epsilon$  dimensions, the theory has a non-trivial fixed point. The critical behaviour around this point is discussed. Finally, it is shown that, due to its stability properties, the PT-symmetric theory has a predictive power higher than the conventional one. As for the PT-symmetric  $\phi^4$  theory, the  $d = 0$  dimension case is studied. Unexpected and intriguing results arise.

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