

Quantum phase transitions in atomic nuclei

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During the last few years there has been considerable interest in nuclei located at the onset of deformation. From the theoretical side this onset of deformation can be described as a quantum phase transition. Here detailed studies using the interacting boson and the collective model have been performed. In the latter atomic nuclei located at the phase transition between spherical and deformed can be described using the critical point symmetries $X(5)$ and $E(5)$. We review recent experimental studies in the spherical to deformed region which are looking for signatures of phase transitional behavior and/or critical point symmetries.

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