

Confining Potential Mode in Baryons Spectrum

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Abstract: Based on the flux tube model, the effects of the confining potentials of different configurations, namely the Δ -type and the Y-type, on the spectra of baryons are studied on $SU_{\text{SF}}(6)$ basis. The baryon spectra are obtained in a unified manner. Our result shows that by employing either the Δ -mode or the Y-mode confining potential, one can achieve reasonable baryon spectra. The Δ -mode may be mostly effective for the short- and medium-distances, while the Y-mode may offer more contributions to the spectra for long-distances. Although the binding energies in baryon spectra may deviate by a few to several tens MeV for different modes, it is hard to determine either one to be dominant by simply evaluating the baryon spectra. One may need to invoke the baryon decay process to make further judgement.

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