

## Plenary talk

The N\* physics program at Jefferson Lab

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收稿日期 2009-8-7 修回日期 网络版发布日期 2009-11-11 接受日期 2009-11-11

### 摘要

Recent measurements of nucleon resonance transition form factors with CLAS at Jefferson Lab are discussed. The new data confirm the assertion of the symmetric constituent quark model of the Roper as the first radial excitation of the nucleon. The data on high  $Q^2$   $n\pi^+$  production better constrain the branching ratios  $\beta_{N\pi}$  and  $\beta_{N\eta}$ . For the first time, the longitudinal transition amplitude to the  $S_{11}(1535)$  was extracted from the  $n\pi^+$  data. Also, new results on the transition amplitudes for the  $D_{13}(1520)$  resonance are presented showing a rapid transition from helicity 3/2 dominance seen at the real photon point to helicity 1/2 dominance at higher  $Q^2$ . I also discuss the status of the search for new excited nucleon states.

关键词 [nucleon resonances, transition form factors,  \$N\Delta\$  transition, Roper, magnetic dipole](#)

分类号

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