Bulletin of the American Physical Society

2020 Fall Meeting of the APS Division of Nuclear Physics Thursday–Sunday, October 29–November 1 2020; Time Zone: Central Time, USA

Session FQ: Mini-Symposium: Electromagnetic FF of N*'s III 2:00 PM–3:36 PM, Friday, October 30, 2020

Chair: Victor Mokeev, Jefferson Lab

Abstract: FQ.00003 : Nucleon resonance spectrum from Regge systematic*

2:24 PM-2:36 PM

Preview Abstract

Authors:

César Fernández Ramírez (Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México)

Jorge Antonio Silva-Castro (Instituto de Ciencias Nucleares, Universidad Nacional Autónoma de México)

Miguel Albaladejo (Jefferson Lab)

Igor Danilkin (Institut für Kernphysik & PRISMA Cluster of Excellence, Johannes Gutenberg Universität)

Andrew Jackura (Jefferson Lab & Old Dominion University)

Vincent Mathieu (Universidad Complutense de Madrid)

Jannes Nys (Department of Physics and Astronomy, Ghent University)

Alessandro Pilloni (ECT* & FBK, Trento)

Adam Szczepaniak (Jefferson Lab & Indiana University)

Geoffrey Fox (Indiana University)

Collaboration:

JPAC

We use Regge phenomenology to study the structure of the poles of the N* and Delta* spectrum. We employ the available pole extractions from partial wave analysis of meson scattering and photo- production data. We assess the importance of the imaginary part of the poles (widths) to obtain a consistent determination of the parameters of the Regge trajectory. We compare the several pole extractions and show how Regge phenomenology can be used to gain insight into the internal structure of baryons. We find that the majority of the states in the parent Regge trajectories are compatible with a mostly compact three- quark state picture.

*PAPIIT-DGAPA-UNAM (Mexico) Grant No. IA101819, CONACYT (Mexico) Grants No. 619970 and No. A1-S-21389, U.S. Department of Energy Grants No. DE-AC05-06OR23177 and No. DE-FG02-87ER40365, Research Foundation— Flanders (FWO), U.S. National Science Foundation under Grants No. PHY-1415459 and No. PHY-1513524, and Deutsche Forschungsgemeinschaft (DFG) through the Collaborative Research Center [The Low-Energy Frontier of the Standard Model (SFB 1044)] and the Cluster of Excellence [Precision Physics, Fundamental Interactions and Structure of Matter (PRISMA)].

This site uses cookies. To find out more, read our Privacy Policy.

I Agree

← Abstract →