



Contribution ID: 47

Type: Oral presentation

On measurement of spin quantization axis of the V -meson resonance via the cross sections of inclusive reaction $A + B \Rightarrow V + X \Rightarrow 1 + 2 + X$ and relativistic partial wave analysis of the V -meson decay reaction $V \Rightarrow 1 + 2$.

Thursday 12 October 2023 12:35 (25 minutes)

Relativistic procedure of explicit accounting of the orbital momentum and spin of the V -meson resonance is suggested for the high energy inclusive reaction

$$A + B \Rightarrow V + X \Rightarrow 1 + 2 + X.$$

It is compared decays of the structureless and composite V -mesons.

Composite mesons are constructed within to the general field-theoretical approach,

where hadrons and hadron-resonances are bound states of quarks [1,2].

It is shown that structure of the meson generate

an

additional terms in the cross sections and in V -meson spin density matrix

and an additional dependence on the orbital momentum of this meson.

Special attention is given to the method of determining the V -meson spin quantization axis and to the possibility of identifying the quark structure of V -meson resonance using experimental cross sections of reactions

$$A + B \Rightarrow V + X \Rightarrow 1 + 2 + X.$$

[1] K. Huang and H. A. Weldon. Bound state wave functions and bound state scattering in relativistic field theory. Phys. Rev. D11 (1975) 257

[2] A. I. Machavariani and Amand Faessler. Current conservation and analytic determination of the magnetic moment of the

Δ resonance in the

πN bremsstrahlung: II. Formulation with quark degrees of freedom. III. Magnetic moment of the Δ^0 and Δ^- resonances. J. Phys. G: Nucl. Part. Phys. 38 (2011) 035002

Is this abstract from experiment?

No

Name of experiment and experimental site

NICA LHEP JINR

Is the speaker for that presentation defined?

Yes

Details

Alexander Machavariani, Prof. Dr. Lhep JINR Dubna and HEPI Tbilisi, Russia and Georgia N/A

Internet talk

Yes

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Session Classification: Parallel Session 2

Track Classification: High Energy Particle Physics