Contribution ID: **1**                                    Type: **not specified**

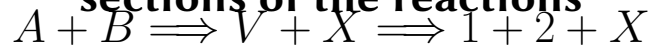# Determination of location of the spin quantization axis of the vector meson-resonance $V$ via the cross sections of the reactions $A + B \Longrightarrow V + X \Longrightarrow 1 + 2 + X$

*Tuesday 5 September 2023 18:50 (20 minutes)*

The general formula that represents location of the
spin quantization axis of the meson-resonance $V$ in the inclusive reaction
$A + B \Longrightarrow V + X \Longrightarrow 1 + 2 + X$ is suggested.
This formula determine the location of the spin
quantization axis of the particles 1,2 and $V$
via the cross sections of the subreactions $A + B \Longrightarrow V + X$ and $V \to 1 + 2$.

For this aim is used the relativistic field theoretical approach, where
the amplitude of the reaction $A + B \Longrightarrow 1 + 2 + X$ is
expressed as a product of the amplitudes of the subreactions
$A + B \Longrightarrow V + X$ and $V \to 1 + 2$.
It is shown that the special cases of the suggested formulation were used
in the numerous high energy experiments in order to study of asymmetries
and alignment of the particles 1 and 2 in
reactions $A + B \Longrightarrow V + X \Longrightarrow 1 + 2 + X$.

Special attention is given to the partial wave decomposition of the
relativistic amplitudes and cross section over the
the orbital moments and spin of the
intermediate $V$-meson and final particles 1 and 2. Equivalence of this
partial wave decomposition and Jacob-Wick decomposition is considered.

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**Session Classification:** Parallel B