Contribution ID : **79** Type : **Oral talk**

Modeling of alignment phenomenon in relativistic heavy ion collisions

Friday, 25 October 2024 12:40 (15)

The kinematic description of the azimuthal correlation of photon and hadron families is discussed. This correlation, also known as the alignment, was first observed by the Pamir collaboration in emulsion experiments with cosmic rays. At the qualitative level the alignment demonstrates the deviation of points from a straight line on the plane of the emulsion film. In our approach the hypothesis of the relation between the alignment of spots and the selection procedure of the highest-energy particles itself together with the transverse momentum conservation is tested in the framework of the HYDJET++ model. Event-by-event the transverse momentum conversation has been taken into account in the form of missing transverse momentum. It is shown that the high degree of alignment can appear at the reasonable values of transverse momentum disbalance of selected most energetic particles.

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Session Classification : Heavy Ion

Track Classification : Heavy ion physics