Estakhr variables and Flow- like Observables in Heavy Ion Collision AHMAD REZA ESTAKHR, Researcher — The Estakhr variables are numerical quantities that encode the density, Current density, and angles of Heavy ion in a scattering process in a Lorentz-invariant fashion. If the Minkowski Metric is chosen to be (+,-,-,-) , the Estakhr variables c_1, c_2, c_3 are then defined by: $c_1 = (J_1 + J_2)^2 = (J_3 + J_4)^2$, $c_2 = (J_1 - J_3)^2 = (J_2 - J_4)^2$, $c_3 = (J_1 - J_4)^2 = (J_2 - J_3)^2$, Where J_1 and J_2 are the four-Current density of the incoming heavy Ions and J_3 and J_4 are the four-Current density of the outgoing heavy Ions, and we are using Planck units (c=1). and then $\sum_{i=1}^{3} c_i = \sum_{i=1}^{4} \rho_i^2$

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