

## Collective behavior of partons could be a source of energetic hadrons

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The scaling behavior of the  $v_2$  at ultrarelativistic heavy ion collisions is considered as a signal of collective behavior of the partons in hot and/or dense hadronic matter [1-4]. The early results of CERN EMC [5-6] and JINR on the effect of limiting fragmentation of nuclei [7-9] were might be also explained through the collective behavior of the partons in the medium with extreme density. The phenomenon could lead to formation of the partons / hadrons with extreme high energies due to which all/majority of partons in the group collectively could give their energies to single (or a few) partons/hadrons. In this case the energy of the energetic partons could be limited mainly with the total energy of the collective partonic system. Using the idea given above one can explain the source of the cosmic particles in the energy domain greater than  $10^{15}$  eV. It is surmised that such energetic partons could be formed in the center of the massive stars with density close to the Quantum Chromodynamic critical one, transformed to the energetic hadron and were detected as high energy cosmic particles [10].

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