

**Referee Report Project FASA**  
“Properties of Nuclear Matter and the Fragments  
Formation on Relativistic Beams  
of the Nuclotron/NICA Complex.”  
(in the framework of topic 02-1-1087-2009/2020)

This is an impressive experimental setup that has been improved upon gradually since about 2010. During the first decade the authors have focused on the dynamics of the fragmentation processes in the collisions between light ions and heavy targets. Many of the statistical properties of the produced hot nuclei have also been established.

In this new proposal the authors intend to focus on studying radial flow by measuring the energy spectra of the produced fragments. Several thermal properties will also be studied such as the degree of equilibration. To establish these it will be necessary to determine the correlation functions. Finally, on the basis of the information thus obtained the authors aim at establishing the time scales involved in the dynamics.

The region covered by this experiment includes the liquid to gas phase transition which leads to new properties about the produced system. The spinodal region is indeed a very interesting one as several very detailed thermal properties will be investigated in this experiment.

The ultimate goal is to establish the space-time behaviour of the produced system, which is quite a challenge and needs lots of input from data.

The authors enjoy a solid reputation and this project will allow them to maintain a leading position in this field of research.

The research project is strongly recommended.

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