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Spokesperson of NA61/SHINE Secr.: (+41 22) 767 6481 Prof. Dr. Marek Gaździcki Goethe-University Frankfurt am Main Jan Kochanowski University, Kielce mobile: (+41) 764 87 5660 e-mail: Marek.Gazdzicki@cern.ch

Grigory V. Trubnikov Director of the Joint Institute for Nuclear Research Dubna, Russian Federation

Dear Academician Trubnikov,

I strongly support the proposal for extension of participation of Joint Institute for Nuclear Research in the NA61/SHINE experiment at the CERN SPS (Theme 02-1-1087-2009/2023, the project leader Alexander Malakhov).

Since the beginning of NA61/SHINE, the Dubna group actively participates in numerous aspects of its broad experimental programme, including measurements for heavy-ion, neutrino, and cosmic-ray physics. Very importantly, there are strong physics and detector synergies between the JINR NICA project and NA61/SHINE. This makes the collaboration between JINR and NA61/SHINE very efficient and strongly beneficial for both parties, and for heavy-ion physics, in general. In particular, both projects address key questions concerning properties of the phase transition to quark-gluon plasma but use complementary experimental approaches - measurements in the collider mode of NICA and fixed-target measurements at SPS. On the detector side, the JINR-NA61/SHINE group is developing a new time-of-flight system based on Multigap Resistive Plate Chambers (MRPC). These detectors have been primarily developed for the NICA project. NA61/SHINE gives an important opportunity to test the detectors under conditions of physics data taking and deliver key physics results.

I am pleased to inform you that many young talented physicists from Dubna work on NA61/SHINE. They are very well integrated into our activities, and they impressed us by high competence and engagement. I am sure they will greatly contribute to the NICA project in the future.

In conclusion, I am deeply convinced that long-term active participation of JINR in NA61/SHINE is very well justified and deserves our strong support.

Sincerely,

Marek Gaździcki

Spokesperson of NA61/SHINE April 30, 2021

NA61/SHINE is a particle physics experiment at the Super Proton Synchrotron (SPS) at the European Organization for Nuclear Research (CERN). The experiment studies the hadronic final states produced in interactions of various beam particles (pions, protons and beryllium, argon, xenon and lead nuclei) with a variety of fixed nuclear targets at the SPS energies. NA61/SHINE physics goals include: Search for the critical point of the strongly interacting matter, detailed study of the onset of deconfinement, hadron production reference measurements for neutrino and cosmic-ray experiments. About 150 physicists from 14 countries and 30 institutions work in NA61/SHINE. NA61/SHINE web-site: http://shine.web.cern.ch/

