# Review of the project “Search for dark sectors in missing energy events”: Proposal for Extension of JINR Participation in the NA64 experiment at SPS

**The NA64 experiment** was reviewed in January 2019 and in June 2019. The 51th session of the PAC made the following statements concerning the NA64 proposal:

“… The PAC also notes that the recommendations made by the PAC for Particle Physics and the PAC for Nuclear Physics at their joint session in January 2019, to improve the ratio of FTE to participants, to attract students and to get involved in data analysis are not properly addressed in the presented material.

Recommendation. The PAC decides to postpone any recommendation on the project till the authors present to the PAC, not later than at the next session in January 2020, a revised proposal including an action plan where the previous recommendations mentioned above are addressed. Till then, if needed, the PAC recommends that the JINR management provide sufficient resources to the group to allow continuation of their work and commitments.”

The members of the NA64 experiment provided a **new version of their proposal**, where they have considered the request of the PAC:

1. *FTE and number of participants*

The JINR participation in the NA64 experiment improved from 4,7 FTE and 13 participants to 7,5 FTE and 14 participants.

2. *Young researchers and potential PhD students*

NA64 attracted 4 new young researches bringing the total number to 6 (increased from 3 in the initial document). All they are potential PhD students in NA64 data analysis, electronic & detector development. The contribution of the young researchers is 3,5 FTE.

3. *Participation in physics analysis, upgrade activities and conferences*

The NA64-JINR group joined the analysis of 2018 data. Work on MC simulation for the upgrade and modernization of the NA64 detector is ongoing. Activities on the electron beam run and studies on the visible decay modes of the hypothetical dark photon begun. The design and preparation of new setup for operation with muon beam continues. NA64-JINR plans presentations at the PAC, at the conference of young scientists in Dubna, and at international conferences.

**I think the new document addresses the recommendations of the PAC in an adequate way. My proposal is to extend the JINR participation in the NA64 experiment in 2020-2022.**

Peter Hristov

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