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GENERAL REMARKS

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Technical Design Report of the Spin Physics Detector at NICA

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FIRST-STAGE PLANS

We must have a few realistic scenarios of data taking. For each scenario we should denote:

- beam species, beam momentum, beam polarization, luminosity
- set of physics tasks with the necessary minimal and optimal statistics for each one and the detector requirements
- reasonable combining of tasks leading to new results and repetitions of previous measurements
- prioritisation of the tasks (run schedule)

This document is necessary first of all for us but it also should be used as an argument in our discussion with accelerator people

SECOND-STAGE PLANS

We need to prioritise our main physics program.

- do we really need longitudinal proton beam polarization at any energy or just at some fixed energy points?
- which beams do we need first: protons or deuterons?
- energy scan vs. long data taking in our main energy points
- does reaching 27 GeV at low luminosity (or/and polarization) make sense?
- longitudinal vs. transverse physics
- He-3 ?
- ...

We need to update our expectations for the detector performance for our main processes

This document is absolutely necessary for discussions with accelerator people their plans for the development of the accelerator complex!

TODO

- Both documents should be rather short - 3-4 pages
- They should be ready in 6-12 months
- They should be the result of the joint efforts of experimenters and theorists
- Does this require a special workshop?
- Iterative preparation process (taking into account feedback from accelerator people)