

SPD physics & detectors by MEPhI group

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Intro & news

- SPD and related topics were included in applications of 2 GZ grants and MEPhI Priority program. Also, they were added to the new program FPM.
- **RSF applications topics?** [Small grants](#) have been announced last week, big grants in August-September. **We are ready to discuss this week!**
- In April SPD had a first software tutorial. Slides and video are available: <https://indico.jinr.ru/event/5367/>
Plan to have the next in November (in person during collaboration meeting in Dubna)
- **Also, in April we had the 1st phase physics 1-day workshop** with the presentation of all suggestions. With discussion of each. Agenda: <https://indico.jinr.ru/event/5351/>

Meetings within the collaboration

- Ordinary collaboration meetings
 - [SPD physics meetings](#) and [SPD first stage physics meetings](#) are on Tuesdays at 15:00. And [monthly Physics and MC SPD meeting](#) at 11am on the third Wednesday of the month.
 - Next [SPD collaboration meeting](#) will be in JINR in autumn (~early November).
- We plan to send as much as possible students there!

News from SPD collaboration meeting

[SPD collaboration meeting](#) was in Armenia on **12-16 of May**.

Detector setup and beam conditions:

- Part of calorimeter (1 or 2 endcaps) are possible. Limiting factor is cost.
- Polarized is planned, but not promised for the 1st stage. No problems with deuterons (up to their max Nuclotron energy), additional solenoid magnet is necessary for protons. Order of polarization is planned 70-80%.
- Asymmetric systems are not possible (but, deuteron+He is possible).
- Any ions will be possible. Polarized ions also can be possible (e.g. neon).
- NICA will not have collisions for physics this year. Beam to test beam areas will be provided.

- RS: can register protons and neutrons also. The efficiency is the same for p and n. The order of efficiency will be provided later. To identify n, the particle should not have the track in track system.
- ECAL efficiency should be around 100%.
- Students for DAQ are highly welcome (Leonid Afanasyev as a contact).

News from SPD collaboration meeting

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- SAMPO (Gaudi-based framework, Athena-like) includes Geant4. They are working on hits modelling and then on reconstruction – with each subsystem. It can be ready for tests in autumn. Students will be needed from September (a lot of tasks).
- Computer resources – mostly JINR, PNPI joined, Samara University joined. MEPhI: negotiations. Still no solid promises of money for computational resources.
- Database of personnel and documents is in development (light version of CERN glance).

Conferences

➤ Conferences to attend

- [Ядро-2025](#), 1-6 июля
- [XXV Байкальская летняя школа по физике элементарных частиц и астрофизике](#), 11-18 июля, **дедлайн подачи 31 мая!**
- [22-я Ломоносовская конференция по физике элементарных частиц](#), 21-27 августа
- Балдинский семинар, 15-20 сентября
- 29-я Международная конференция молодых ученых и специалистов (AYSS-2025), 27-31 октября

Please feel free to add conferences and schools to this list!

➤ Support of the participation of students in conferences and scientific school from MEPHI Endowment:

<https://it.mephi.ru/webform/2007>

Here we are maintaining a list of the talks and papers of the group:

<https://docs.google.com/spreadsheets/d/1mJ1oqFdE-CN6dZJ1CYZfkzGZ8CFkEPHlvi1wL6FvmnA/edit?usp=sharing>

Do not forget to fill it!