



Report of the SPD spokespersons

A. Guskov, V. Kim

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Outline

TDR preparation

New SPD Detector Advisory Committee

Collaboration status

New Publication Policy

JINR NICA grants

PAC recommendations

Recommendations of 57th PAC meeting, 23 January 2023

Recommendation. The PAC encourages the team to update the project, taking into account the current availability of materials and equipment as well as their cost. The Committee recommends that JINR management appoint a Detector Advisory Committee for a thorough review of the SPD TDR.

Critical components

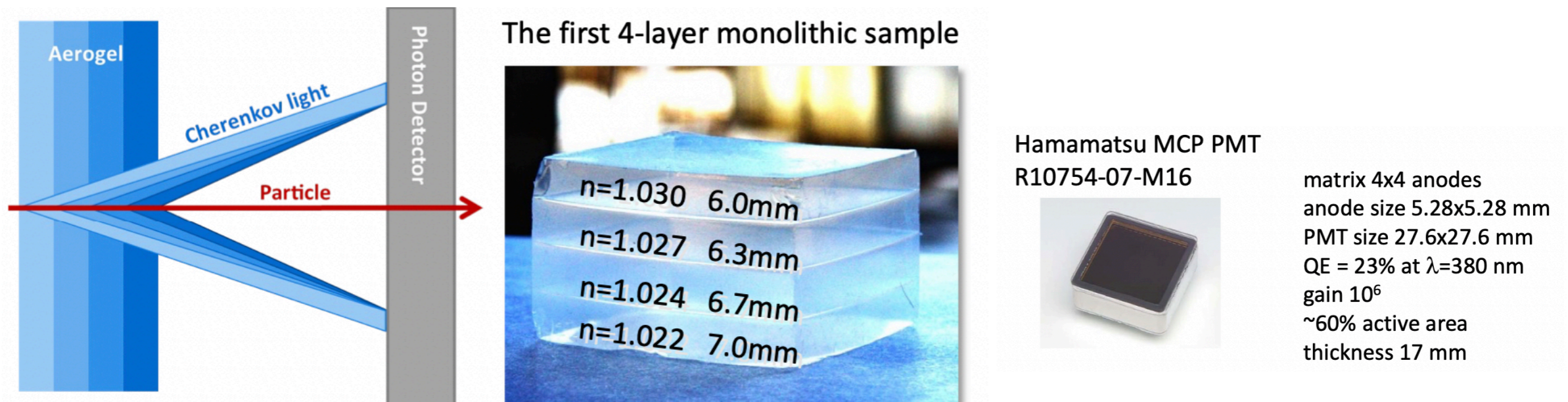
Subsystem	Stage	Technology	Materials & components	Electronics
MM-based Central Tracker	1			
SI Vertex Detector				
DSSD option	2			
MAPS option	2			
Straw Tracker	1,2			
ToF	1*,2			
Aerogel	2			
ECAL	1*,2			
Muon (Range) System	1,2			
BBC	1,2			
ZDC	1,2			
Superconducting Magnet	1,2			
DAQ	1,2			
Computing	1,2			
DCS	1,2			
Support & moving system	1,2			

TDR summary

- SPD Collaboration continues to work on TDR update.
- Main directions are:
 - searching for alternative suppliers
 - initiation of developments in Russia
 - analysis of feasibility of alternatives and optimization of solutions
- We do not see any show-stopper for the first phase of the SPD detector from point of available technologies and components
- We hope to have the next public version of the SPD TDR with updated solutions and cost estimation by the end of the year

From threshold aerogel detector to FARICH - Focusing Aerogel RICH

MCP-PMT as a position-sensitive detectors



The first 4-layer monolithic sample

$n=1.030$	6.0mm
$n=1.027$	6.3mm
$n=1.024$	6.7mm
$n=1.022$	7.0mm

Hamamatsu MCP PMT
R10754-07-M16

matrix 4x4 anodes
anode size 5.28x5.28 mm
PMT size 27.6x27.6 mm
QE = 23% at $\lambda=380$ nm
gain 10^6
~60% active area
thickness 17 mm

Increase N_{pe} due thickness increase without σ_{oc} degradation

T.Iijima et al., NIM A548 (2005) 383

A.Yu.Barnyakov et al., NIM A553 (2005) 70

Now we have a new group with a great deal
of experience in aerogel detectors!

PAC recommendations

Recommendations of 58th PAC meeting, 21–22 June 2023

The PAC takes note of the report on preparing the Technical Design Report of the SPD experiment presented by A. Guskov. The layout of the detector has been adopted taking into account new opportunities opened up by the increased permissible load on the floor of the experimental hall. The SPD team is making efforts to find and develop substitute equipment, components, and technical solutions needed to build the detector. Preparation of documentation for the superconducting SPD solenoid is underway. The PAC reiterates its recommendation to the JINR management on the need to resume the activities of the international SPD Detector Advisory Committee. The PAC encourages the SPD team to proceed with the preparation of the TDR.

Former DAC



**Andrea Bressan, INFN/
University of Trieste
chair**



**Peter Hristov,
CERN**



**Pasquale di Nezza,
INFN, Frascati**

New DAC (preliminary)

Huang Xingtao
Shandong University

Heng Yuekun
IHEP CAS

Ivan Logashenko
BINP, Novosibirsk

Edward Kistenev
BNL

- **Many thanks to the Former DAC. It played a very important role in the project**
- **New DAC should be more “technical”**
- **We have preliminary assent of 3 persons but we need 1-2 more**
- **The new Committee has to come to operation till the end of the year**

Collaboration status

- **11 signed MoUs: AANL, PNPI, Samara univ., SPbSU, SPbPU, TSU, LPI, INP RK, MEPhI, INR RAS, SINP MSU, Belgorod univ. and 1 pending: and KI (ITEP)**
- **Two new groups**
- **Contacts with institutes in Serbia, Mexico, SA and India**

New groups

- **Budker Institute of Nuclear Physics (Novosibirsk)**

Group leader A. Barnyakov

- **Superconducting magnet**
- **FARICH detector**
- **Physics**



- **Higher School of Economics (Moscow)**

Group leader F. Ratnikov

**Machine learning and artificial intelligence
in big data analysis**



New Publication Policy

This document defines the rules and gives the recommended deadlines for making official the results obtained within the SPD collaboration as well as for their publication and dissemination to the outside world. It aims to clarify, simplify and fasten as much as possible the procedure for the publications of the results of individuals and groups, after endorsement by the SPD collaboration. It is intended to be annexed to the chart of the SPD collaboration.

This document can be amended and updated by the Publication Committee, who reports to the Collaboration Board.

The role and constitution of the Publication Committee is defined in the SPD Bylaws (last amended in September 29-2021) section VII.

SPD Publication Committee

The Publication Committee is responsible for the quality of the scientific materials that the SPD Collaboration provides to the external community. Its duty is to review and keep track of all conference talks, drafts for journal papers and conference proceedings.

Internal workshops and talks in the participating institutes (seminars, reports etc.) are not covered by this document, but SPD members need to inform the Publication Committee.

The Publication Committee is responsible to keep a register of all publications (conference proceedings, journal papers as well as diploma and PhD theses) and to maintain it up-to-date at the SPD website.

The Publication Committee is also responsible for maintaining the internal Publication Web Page, that collects SPD analysis or technical notes, talks, papers and a list of current publications with their authors, referees and publication status.

Members of the Publication Committee and its Chairperson are appointed by the Collaboration Board, covering the broad spectrum of physics problems related to the SPD project. The term of office of the members is defined in accordance to the SPD Bylaws. At least once in 6 months the Chairperson of the Publication Committee reports to the Collaboration Board about the current status of publication activity.

1. Journal publications

The Author list for general papers and other public documents like the Conceptual or the Technical Design Report is established within the Collaboration Board.

General publications in referenced journals should be submitted to the Publication Committee for an approval of principle at least one month before the foreseen date of submission.

The Publication Committee may appoint a dedicated Review Committee to follow up the paper till publication.

The draft should be made available to the whole collaboration at least one week before the foreseen date of submission.

2. Conference talks and proceedings

Approval for plenary talks and general presentations (title and abstract) to Conferences should be requested to the Publication Committee as much in advance as possible, preferably one month before submission and registration. A presentation is defined as 'general' if it represents an overview of the SPD project and its physics program or the SPD setup as a whole, including contributions from more than one working group.

Slides should be submitted to the Publication Committee for review at least one week before the talk and the written contribution two weeks before sending for publication. The proposed corrections and changes are returned to the authors for completion of the drafting process within one week. The revised material has to be sent to the Committee for the final approval.

In the oral contribution, speakers are requested to state that the talk is given "on behalf of the SPD Collaboration". The written contribution to the proceedings is signed by the speaker "on behalf of the SPD Collaboration". *The speaker may propose a restricted number of coauthors, who essentially contributed to the presented material.*

Rehearsals are requested for young SPD members (PhD students etc) and highly desirable for all other members. It is the responsibility of the Publication Committee to organize rehearsals for plenary talks. Rehearsals of talks in parallel sections should be organized by the dedicated Coordinator. Slides for all SPD talks should be made available to all SPD members prior to the conference in a dedicated Indico page.

3. Technical papers

Journal papers, devoted to some particular subdetector, a particular experimental technique or a Monte Carlo simulation for a given physics problem are signed by the subgroup of people having directly contributed. The Coordinator of the corresponding working group is responsible for preparation of the paper draft and the author list.

The reviewed draft with proposed corrections and changes is returned to the working group for completion of the drafting process. The revised paper has to be sent to the Committee for the final approval.

Technical contributions and conference talks with limited number of authors should be submitted to the relevant Coordinator (to the Technical coordinator for publications on detector hardware, and to the Software Coordinator for publications on computing and software) at least two weeks before submission. The Coordinator, who is responsible to guarantee the quality of the publication, reviews himself or appoints a restricted review committee. The Coordinator may request the advice of the Publication Committee. The final draft, including the author list, has to be presented to the Publication Committee for approval at least one week before submission to the journal.

1. General statements

The Spokespersons act as mediators and judges for disputes that may arise and are the ultimate responsible for the publication of the SPD results.

Any SPD member may require to remove his name in the author list, if he feels his contribution not sufficient or if he does not agree with statements of the paper. A motivated request should be sent to the authors, the relevant Coordinator and the Chairperson of the Publication Committee.

Papers with theoretical predictions for the SPD experiment are treated as private and not subject to the SPD Publication Policy except the cases where dedicated SPD tools or data (software, or test beam measurements) are explicitly used.

Submission to the arXiv.org repository of the approved SPD-related conference and journal contributions is highly encouraged.

JINR NICA grants

PNPI (single spin asymmetries and readout electronics for straw tracker)

AANL (aerogel counter)

SPbSU (multiquark fluctons & MCP BBC)

Samara univ. (J/psi production)

SINP MSU (production of open charm and tau-leptons)

**30 people were supported with
6 000 000 rubles**

**Written reports were submitted a week ago
Some results will be presented at this meeting**

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