

TIC meeting:

DSCs papers in the NIM-A Special Issue

September 14th, 2026

DSCs papers in the NIM-A Special Issue

Introduction and Context

NIM-A Special Issue

MOTIVATIONS

- Enormous progress of the Collaboration in all aspects → document and disseminate!
 - NOTE: the preTDR cannot include a fully detailed documentation because of obvious need of concision
- Need to recognized the efforts of the collaborators, particularly of young scientists →
Publication is an obvious path
- Making ePIC voice heard
 - It is essential to show that there is an active, vital international community that is invested in the EIC

WHICH JOURNAL

- Looking at previous examples (f.i. NIM-A Special Issue for RHIC) address NIM-A
- Positive outcome from contacts (Feb. 2026) with the NIM-A Editor in charge of special issues

GOAL

- Goal defined also thanks to conversations within the Collaboration
- A comprehensive issue on the ePIC detector and its capabilities for EIC science, not DSCs only !
 - Elsevier editors very encouraging also respect to the enlarged scope issue

→

"The ePIC Detector and Science Program at the
Electron Ion Collider"

TIMELINES

- Open for submission: March 15, 2026
- Submission Phase-1: (Oct. 2026)
 - Primarily support the EIC Early Science program as well as the synergy with US priorities
- Submission Phase-2: (continuously open for submission till Early 2027)
 - Expand the scope to the full EIC Science program (comprehensive)

MANAGERIAL ASPECTS

- Guest editor: John Lajoie
- Co-guest editors: the ePIC Coordinators with obvious distribution of responsibilities
- All submitted papers will be subject to peer review

NIM-A Special Issue

Anticipated content

- Streaming Computing Paper:
 - Advanced draft, submit to NIM-A special issue by October
- Streaming Reconstruction Paper:
 - Potential to be ready by October
- Software and Simulations Paper:
 - Potential to be ready by October
- Physics performance paper (derived from pTDR)
 - To be addressed when the overall ESR is completed
- Early Science Report
 - The most advanced, already in ArXiv in its July version
- Early Science Physics Appendices
 - The detailed studies for the ESR, 2 of them expected for Phase 1, 2 others later
- BSM/EW Physics Performance Paper
 - In preparation
- ePIC Detector Overview Paper
- Subsystem technical papers (derived from pTDR)

Expected :
Phase 1

Expected :
Phase 2

A frame for the overall material by DSCs

Discussed today

NIM-A Special Issue, Detector overview paper

- **Goal:** a comprehensive introduction to the ePIC detector
- **Title:** “The ePIC Detector at the EIC”
- **Features:**
 - Mentioning all essential ingredients without details (the detailed information will be found in the DSC papers)
→ Anticipated paper length: 10-15 pages
- **By whom?**
 - A Writing Board has been formed:
 - TC-Office (Silvia Dalla Torre, Prakhar Garg, John Haggerty, Oskar Hartbrich)
 - Alex Jentsch
 - Norbert Novitzky
 - Barak Schmookler
- **Timelines:**
 - Kickoff meeting on September 9th
 - Paper structure defined by September 23rd
 - Production of texts by October 15th
 - Distribution of the draft to the collaboration on November 2nd

Thank you for serving in the Writing Board !



DSCs papers in the NIM-A Special Issue

Strategy for DSC papers

DSCs contributions to the ePIC NIM special issue

- Bottom-up input collected in **April 2026**
 - Two type of papers planned:
 - **Subsystem overviews**
 - **Technical papers about technology development**
- **Today** discuss and define the **strategy for the DSC contributions to the NIM-A special issue**
 - The next slides present a global TC-Office **proposal** presented to focus the discussion
 - **The strategy will be defined after the today discussion**

Strategy proposed by the TC-Office

- **PRIORITIES:**

- **Early submission the overview papers**, whenever possible already for Phase-1
- Extension of preTDR chapter 3

- **Technical papers**

- Include in the NIM-A special issues those technical papers that deal with **original technologies developed for EIC/ePIC**
- Other technical papers as testbeams, lab studies, prototypes/engineer first articles, etc. deserve publication!
 - published as standard papers in appropriate journals (NIM-A, JINST, IEEE, others)

• Submission Phase-1: (Oct. 2026)
• Primarily support the EIC Early Science program as well as the synergy with US priorities

Strategy proposed by the TC-Office, some details

- **OVERVIEW PAPERS, the list**

14 overview papers in total

- SVT
- MPGD
 - 1 paper? (G-RWELL must be in a single paper: the technology is the same)
- pfRICH
- hpDIRC
- dRICH
- ToF
 - A single global paper as already proposed by the DSC
- EEEMCAL
- BIC
- FEMCAL
- HCals
 - A single paper as discussed during the April TIC meeting
- FF
 - 1 single paper? (considering that all FF technologies are synergistic with subsystems in the CD one global overview can be appropriate)
- Lumi system
 - A must, no input from the DSC so far ...
- Low Q^2 taggers
 - No input from the DSC so far ...
- Electronics and DAQ

Strategy proposed by the TC-Office, some details

- **TECHINICAL PAPERS, the list using the April inputs and assuming the proposed strategy**
 - **HRPPD**
 - Co-development and validation of the technology for the usage in ePIC
 - **SiPMs** for Cherenkov imaging - radiation damage and annealing
 - Validation of SiPM as photosensors for usage in Cherenkov imaging counter at ePIC
 - **dRICH gas and gas system**
 - Validation of C_2F_6 not used so far as gas radiator and novel gas separation principle also compliant with environmental restrictions
 - **AC-LGAD**
 - Sensor development and qualification

4 technical papers in total

Please, note:

The 4 testbeam paper proposals and the 6 paper proposals dedicated to engineering development of subsystems are suggested for standard publications in appropriate journals

A couple of more points before starting the discussion

- **How many papers anticipated for the NIM-A special issue?**
 - S & C: 3
 - Physics: 7
 - Detector: $1 + 14 + 4 = 19$
 - **Total: 29**
- **How to deal with the different submission time and, at the same time, avoid duplicated information?**
 - Collect within 1 week the title of the expected papers for the NIM-A special issue
 - While writing, quote the papers as “xxx” in preparation
 - Refine the references when the paper are published (after the submission and reviewing processes); some will remain “in preparation”, not a major problem as these papers will appear after short time in the same volume