

## Summary of the CPEDM Meeting (June 2018)

The goal of CPEDM Meeting on June 18 and 19, 2018 in Jülich was to plan the ESPP (European Strategy for Particle Physics) update and PBC (Physics Beyond Colliders) documents to be submitted to the European Strategy Group (ESG) later this year (deadline: Dec. 18, 2018). The following items were discussed and agreed upon:

1. CPEDM will contribute to the EDM community report (“10-pager”) for ESPP. It is intended to update the 2012 report (see *Appendix A*), and CPEDM will provide a chapter, which emphasizes the following points:
  - a. Science case: importance of different systems to determine the EDM sources
  - b. Potentially very high sensitivity of the EDM search
  - c. Internationality of the approach, leading European role
  - d. Uniqueness of COSY as R&D and test facility; precursor dEDM experiment
  - e. CERN as possible host of the final ring
2. CPEDM will prepare a “10-pager” for the charged particle EDM search in storage rings, comprising:
  - a. Underlying physics
  - b. Experimental feasibility/maturity (roadmap)
  - c. Collaboration
  - d. Cost estimate, time scale

This document can be seen as the executive summary of the full feasibility study (Yellow CERN report) which needs to be ready early 2019. The outline has been discussed and agreed upon (see *Appendix B*); besides the report about the final ring, it will contain the following appendices:

- a. Achievements by JEDI (at COSY) and elsewhere
- b. Prototype ring

*Appendix B* also assigns contributors for the report; the overall editorial team will be: Mike Lamont (also PBC coordinator), Yannis Semertzidis and Hans Ströher.

The second part of the meeting was devoted to status reports, mainly about the prototype as next step, and strategy discussions; the following provisions of the roadmap are foreseen:

- a. Step-1: test of storage time, spin coherence time, stored intensity in an all-electric proton ring at  $E_p = 30$  MeV with a single beam.
- b. Step-2: test of simultaneous CW/CCW beams, first with unpolarized beams for orbit-matching, subsequently with polarized beams – both at  $E_p = 30$  MeV.
- c. Step-3: frozen-spin demonstrator with E- and B-fields at  $E_p = 45$  MeV to develop the tools for the EDM measurement in the final ring.

Other issues:

- a. Information about this meeting is available at: <https://indico.cern.ch/event/738304/>
- b. Information about CPEDM is available at: <http://pbc.web.cern.ch/edm/edm-default.htm>
- c. A CPEDM mailing list will be established– please sign in (Mike will tell, how)
- d. The ESPP Open Symposium will be held May 13-16, 2019 in Granada (Spain)
- e. **Next meeting: Monday July 9, 2018 at 2 pm (Jülich time) in IKP/FZJ (Jülich)**

June 20, 2018

Mike Lamont, Hans Ströher