EICUG Software Working Group

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Markus Diefenthaler (JLab)

Meeting schedule in FY19

02/14	Status of documentation and tutorials, website
03/07	**Summary of MCEG workshop, status of Monte Carlo Initiative**
04/11	Update on community reference reconstruction
05/20–05/22	In-person meeting in Trieste
06/06	Benchmarks and comparison (Quantitative assessment of measurement capabilities and their physics impact)
07/11	Review of theory tools
07/22–07/26	EICUG Meeting Paris
08/	Summer break
09/05	FY20 planning

MCEG Workshop

The second workshop on "<u>**MCEGs for future ep and eA facilities**</u>" will take place at DESY Hamburg on February $20 - 22$, 2019.

Organizers

- **EIC Community** E.-C. Aschenauer (BNL), A. Bressan (INFN, Trieste), M. Diefenthaler (JLab)
- **MCnet community** H. Jung (DESY) S. Plätzer (Vienna) and S. Prestel (Lund)

Focus requirements including benchmark measurements and observables, status of NLO in ep/eA, QCD+QED effects in MCEG, GPDs and TMDs and MCEGs

Monte Carlo Initiative

Charge "The EICUG Software Working Group's initial focus will be on simulations of physics processes and detector response to enable quantitative assessment of measurement capabilities and their physics impact. (...) It will embody simulations of all processes that make up the EIC science case as articulated in the White-paper."

Initial focus for simulation of EIC physics processes

- online catalogue of MCEGs

- EICUG documents:
  - MCEG requirements (work in progress)
  - MCEG event model

- MCEG R&D:
  - containers and tutorials for EIC MCEGs

Online catalogue of MCEGs

- Hosted on https://eic.gitlab.io, editable for EIC group on GitLab
- **First steps** Agree on fields and then open call for input among EICUG
- **Proposed fields**
  - **Categories** ep, eA, radiative effects
  - Name
  - Contact information
  - **Brief Description** What processes are described? What is unique about the MCEG? Include version number as reference.
  - **References (links)** website, repository, documentation, container, validation plots

MCEG Container for EICUG

Container for Pythia8+DIRE by Nadine Fischer (Pythia)

Jupyter notebook interface

Rivet and Professor support

Visualization of ep collision
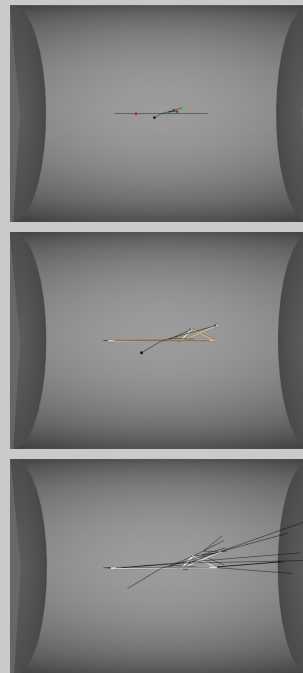
Next steps

- Agree on first version of MCEG catalogue and prepare example(s)
- Ask EICUG for input to catalogue

- Agree on MCEG container
- Provide MCEG in catalogue as containers

- Setup MCEG task force