TPC drift and readout operation in sPHENIX

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For the sPHENIX TPC group

sPHENIX Performance Plot and Event Display Approval 6/12/2023

Module properties

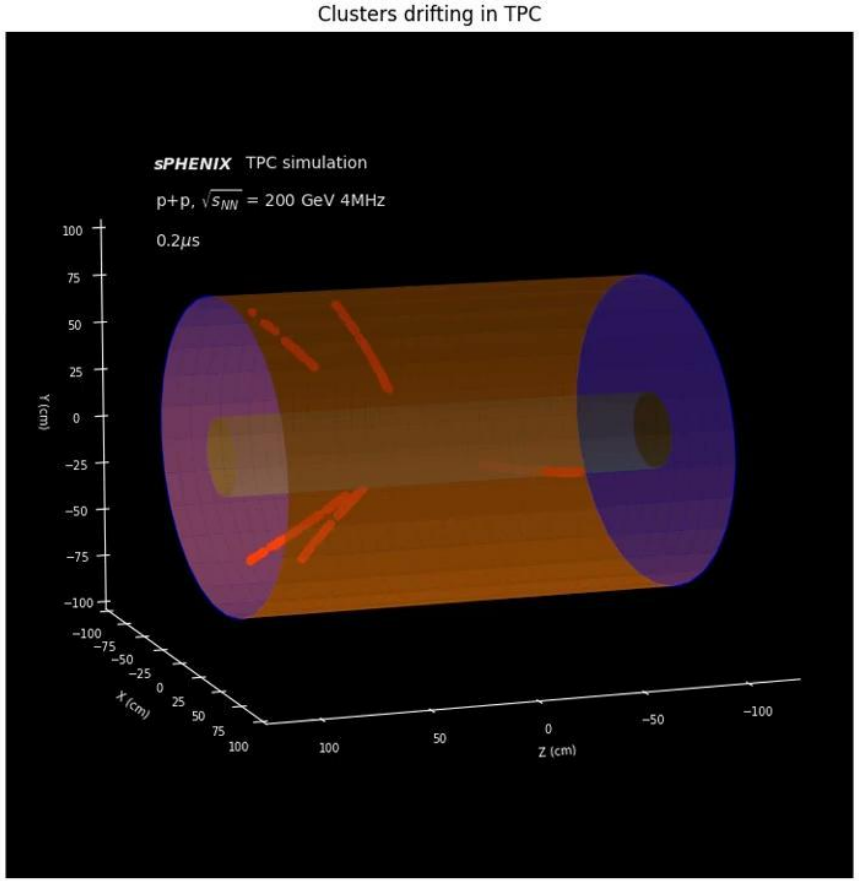
TPC-ClusterAnimation (link to github)

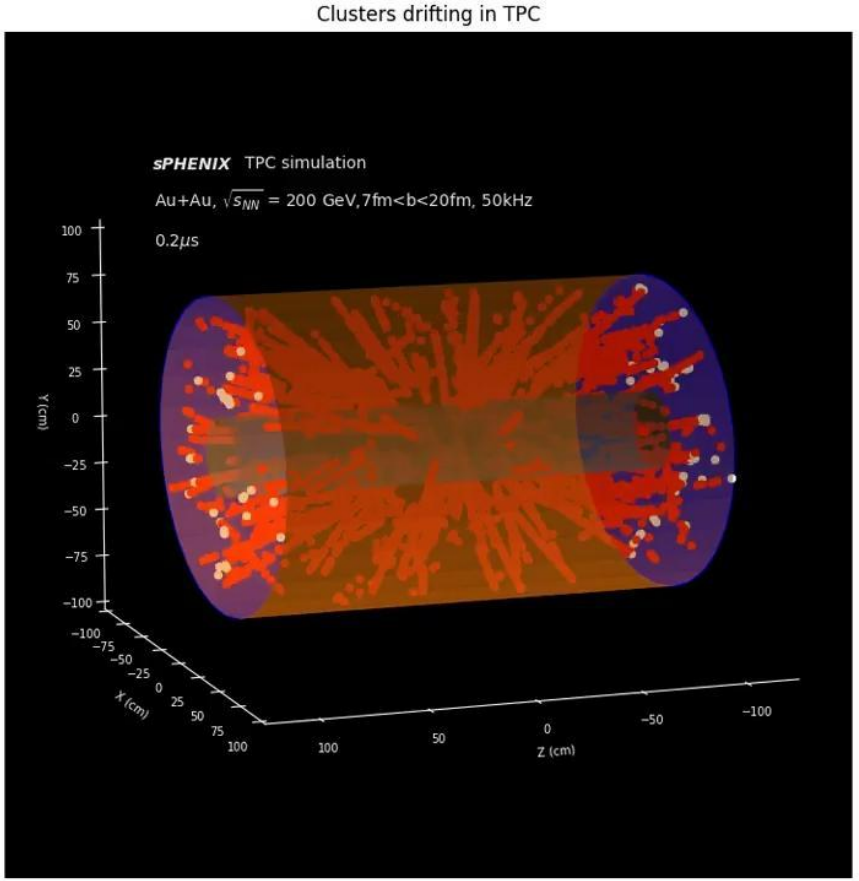
- Allows to animate clusters using the output file from the standard Fun4All macro or the json file used for the event display.
- User defined drift speed of TPC (set to 8cm/μs) and collision rate (set to 4MHz for p+p and 50 kHz for Au+Au)
- The output is a matplotlib animation that can be viewed in different angles along with a mp4 video file of the animation

Uses

- Demonstration of the working of new-generation streaming TPC to general audience
- Display of the real time cluster positions and their drift to help in tracking
- Visualization of multiple events at the same time to help in detector calibrations

Output





➢ The videos are attached to the indico page

Previous presentations and resources

- sPHENIX software and simulations meeting, 25April 2023
- TPC-ClusterAnimation module on github