News
WG4 Working Meeting

Detector Physics Modelling and Simulation

WG4 Conveners

News

- We launched a poll (deadline 15/04) to understand your interest in one of the topical groups
  - *Please fill it in!*
  - *Link: https://forms.gle/TTtY6fThngjSZXgX9*
  - *Requires 30" of your time*
  - So far 30 responses (would need ~90 = responses survey)
- WG4 conveners will organize in the next weeks the working meetings for the next couple of months
  - We will reach out to you to
    - ask your partecipation
    - Ask for a possibile contribution

Topical Groups

1. **Communication & Documentation**
   - Develop website, develop documentation, Prepare examples (and publis), simulation school
   - Translate C++ to python, SWAN / Collab notebooks

2. **Space Charge & Large Avalanches**
   - New – hybrid – algorithms: cpu & memory efficient
   - Electric field update for large space-charge, Investigate use of GPU

3. **Resistive Detectors**
   - Signal induction in detectors with resistive layers
   - Simulate / model large-size effects (distance to GND)
   - Transmission line / signal transmission over large distances

4. **Ecological / New gases** (incl x-sections, Py- / Beta- / Magboltz / Methes …)

5. **Measurements and modelling of non-equilibrium and low-pressure effects**
   - Measurement and extraction of Penning effect, feedback, ion mobilities , ion-clusters

6. **Software Integration & Development**
   - Core software development, Software maintenance, Software optimization (reduce mem)
   - Parallelization, use of heterogeneous computing (gpu), pioneer machine-learning?
   - Integration of different sw to work smoother together, …

7. **Rare-event TPC simulations**
   - Development of electro luminescense, Negative ions, ….

8. **Wire Detectors**   (discussing Data/MC comparisons, outstanding issues, …)