

DRD1-DRD2 synergies

- Link persons:
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In general, we assume that *detectors that require operation in cryogenic infrastructures are primarily associated with the DRD2 community.*

DRD2-DRD1 Overlap:

- Study of dual-phase amplification *in vapour phase* achieved through wires, meshes, and thick-GEM structures, may require gaseous detector optimization/operation in extreme conditions (not excluding RT), in the framework of DRD1.
- Operation of wires and MPGD-like structures *directly in the liquid phase* for signal induction and even light amplification has been done and future R&D cannot be excluded. New designs may be implemented in the framework of DRD1.

Technological Overlap:

- Possibility of sharing manufacturing techniques between DRD1 and DRD2 communities

Simulations and Transport:

- Simulations of electron-ion transport either in Montecarlo or through Boltzmann-based techniques will be beneficial to both communities:
 - Attractive synergic/complementary approach to Garfield++/Magboltz transport in gas.
 - Charge recombination and Space-Charge are difficult areas (numerically and technically), of strong common interest.

Areas of Cross-Fertilization:

- Gas/liquid recirculation.
- System purification.
- Fluid-dynamics simulations.
- UV-photon detection.
- Radiopurity and material selection.