

Detector development discussion

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- Re-develop detector expertise at TRIUMF
 - building up an environment for detector development
 - before losing the knowledge that existed 10-20 years ago at TRIUMF
- Training the next generation of scientists and engineers
 - Schools (GRIDS) and university courses
- Societal benefit
 - Environmental monitoring, radiation monitoring
 - Green technology, Life science

- User support and school program
 - Programs to support students and researchers
 - user support for experiments and detector developments
 - schools and courses for students
 - Support personnel (3)
 - logistics (organization, paper works, budget management, etc.)
 - electronics and DAQ (including managing electronics pool)
 - mechanics (design and set up experimental set up)
 - Equipment support
 - pool of electronics and mechanical components
- Funding
 - CFI: equipment and support personnel for the first several years
 - NSERC CREATE: support for students
 - Strategic Innovation fund: potentially providing a building!

- M11 beam program (GRIDS) program
 - Quantum mechanics
 - preparing PMT/scintillator to see single photoelectrons
 - Relativity
 - arrival time of p , π , μ , e to see the relativistic effect
 - Electromagnetic interaction
 - stopping particles to see Bragg peak and dE/dx
 - Weak interaction
 - stopping surface muon to see muon decay and parity violation
 - Strong interaction
 - stopping π^- absorption to see the release of π mass to energy
 - CNO cycle (sun burning) and Positron emission tomography (PET)
 - $p \text{ } ^{12}\text{C} \rightarrow \text{}^{13}\text{N} \rightarrow \text{}^{13}\text{C} e^+ \nu : e^+ e^- \rightarrow \gamma \gamma$
- Other potential programs (need ideas!)
 - U-Th chain and detection of Rn noble gas with Germanium detector

- Strong interest in TRIUMF community
 - Particle/nuclear physics (Kate, Chloe, Max, Stan Yen,...)
 - CMMS (Kenji Kojima)
 - Accelerator beam diagnostics (Victor Verizilov)
 - Life Science (Conney Hoehr)
 - Student and school program (Marcello Pavan)
- Reaching out university community
 - Bernd (SFU) as a part of the detector development task force
 - plan to reach out to UBC and UVic members
 - plan to visit Gwen Grinyer/Garth Huber (CINP) and Mike Roney (IPP) in September

- A short note for the TRIUMF 5YP
 - submit after the international review in November
- Develop community support for funding requests
 - CFI, CREATE, Strategic Innovation funds
- GRIDS program next summer
 - opportunity to demonstrate the potential