Session 2A Summary – EM Physics Validation for Medical Use

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Session 2A
EM Physics Validation for Medical Use

- Geant4 Medical Simulation Benchmark Group (G4MSBG)
  - Investigators knowledgeable with each benchmark will keep track of Geant4 accuracy and potentially efficiency
  - The bulk of the benchmarks to be included in the initial G4MSBG regression test suite were presented in session 2A and 4A
  - Experimental benchmarks presented
    - Ramos-Mendez: Neutron yield from different targets for protons below 300 MeV
    - Gautelli: C-12 ion fragmentation validation
    - Mantero: Electron scattering test results
    - Faddegon: Electron scattering from foils at 13-20 MeV
    - Faddegon: Bremsstrahlung from thick targets at radiotherapy energies
  - These tests and those presented in Session 4A are of critical importance to medical simulation
  - Automation of regression testing using the G4MSBG benchmark suite is under development by Pedro Arce and Andrea Dotti (session 1A talk)
- Also discussed other issues of importance to medical physics
  - Pedro Arce, X-ray linac simulation results with different EM models
  - Pedro Arce, DICOM data utility