TARC Analysis using Geant4

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Outline

Distribution of Neutron Energy Deposition

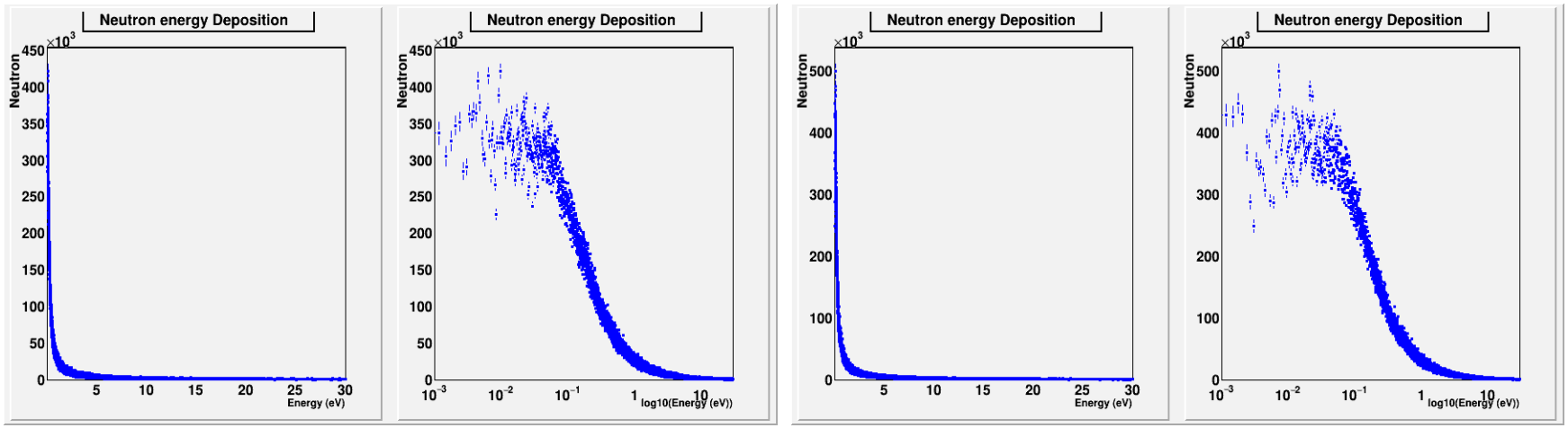
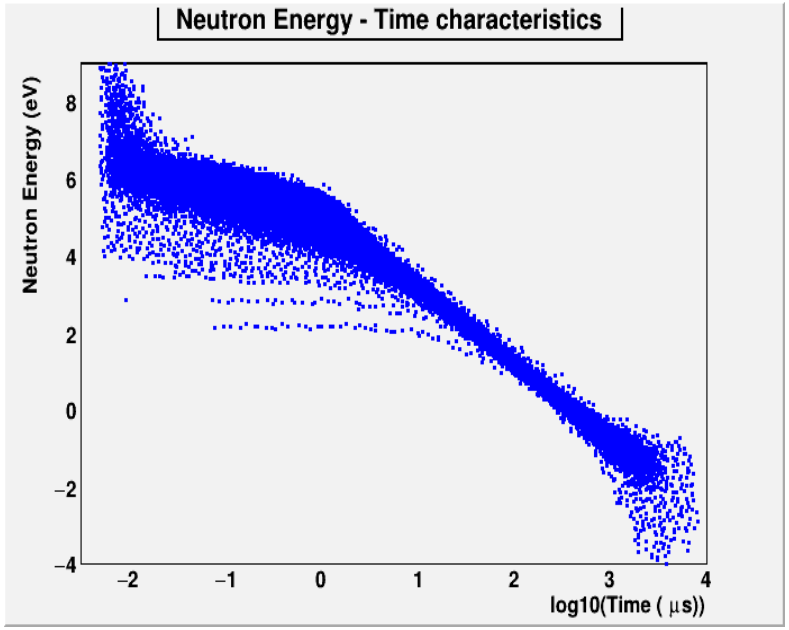


Figure: Neutron Energy deposition for *QGSP_BIC_HP* and *QGSP_BERT_HP* Physics model.

Distribution of Neutron Energy and Times



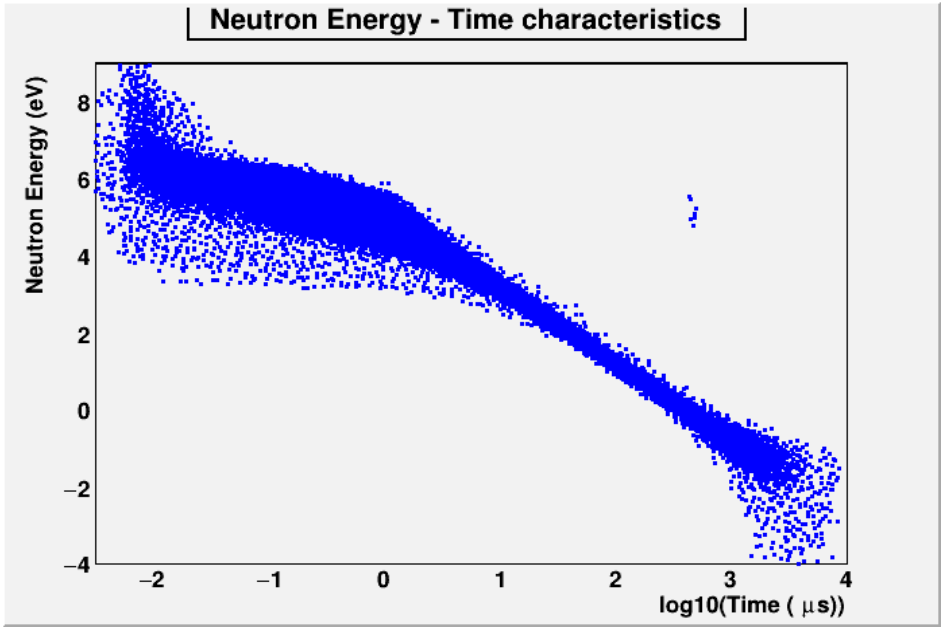
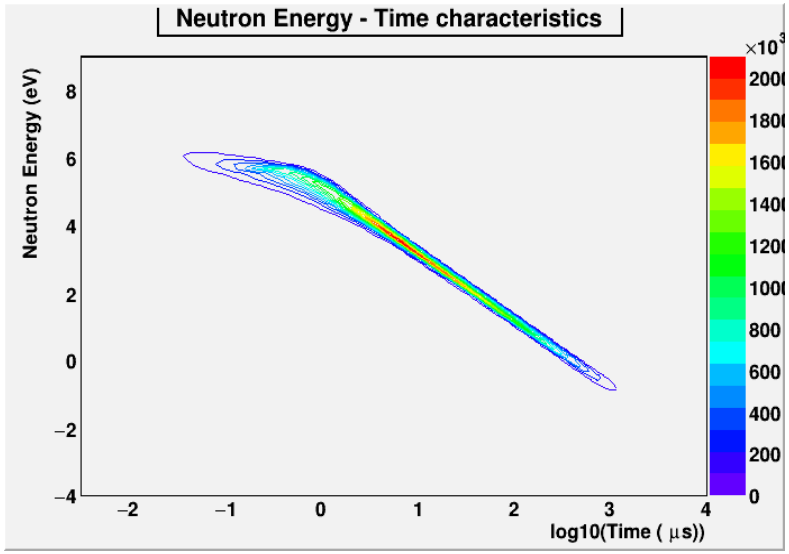


Figure: Distribution of Neutron energies and times using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics model.

Distribution of Neutron Energy and Times



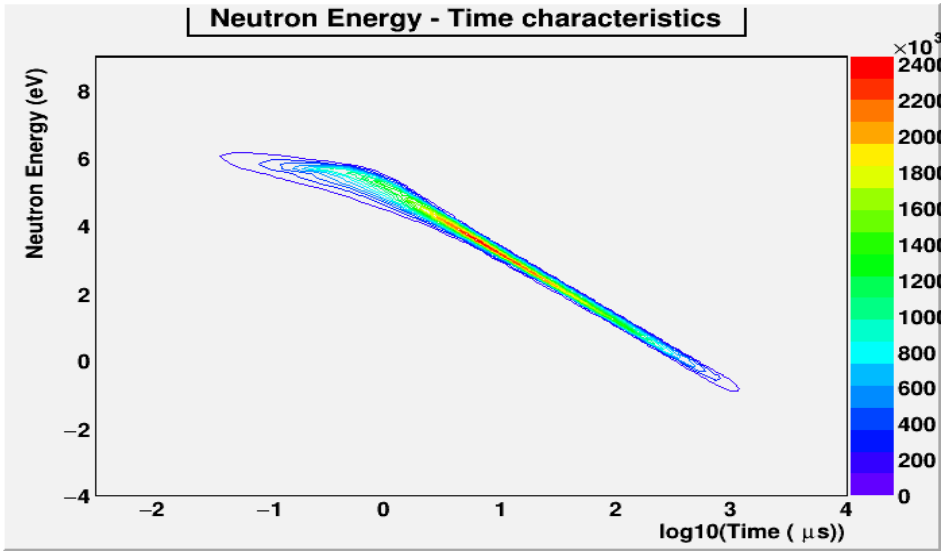


Figure: Distribution of Neutron energies and times using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics model.

Correlation of Neutron Energy and Times

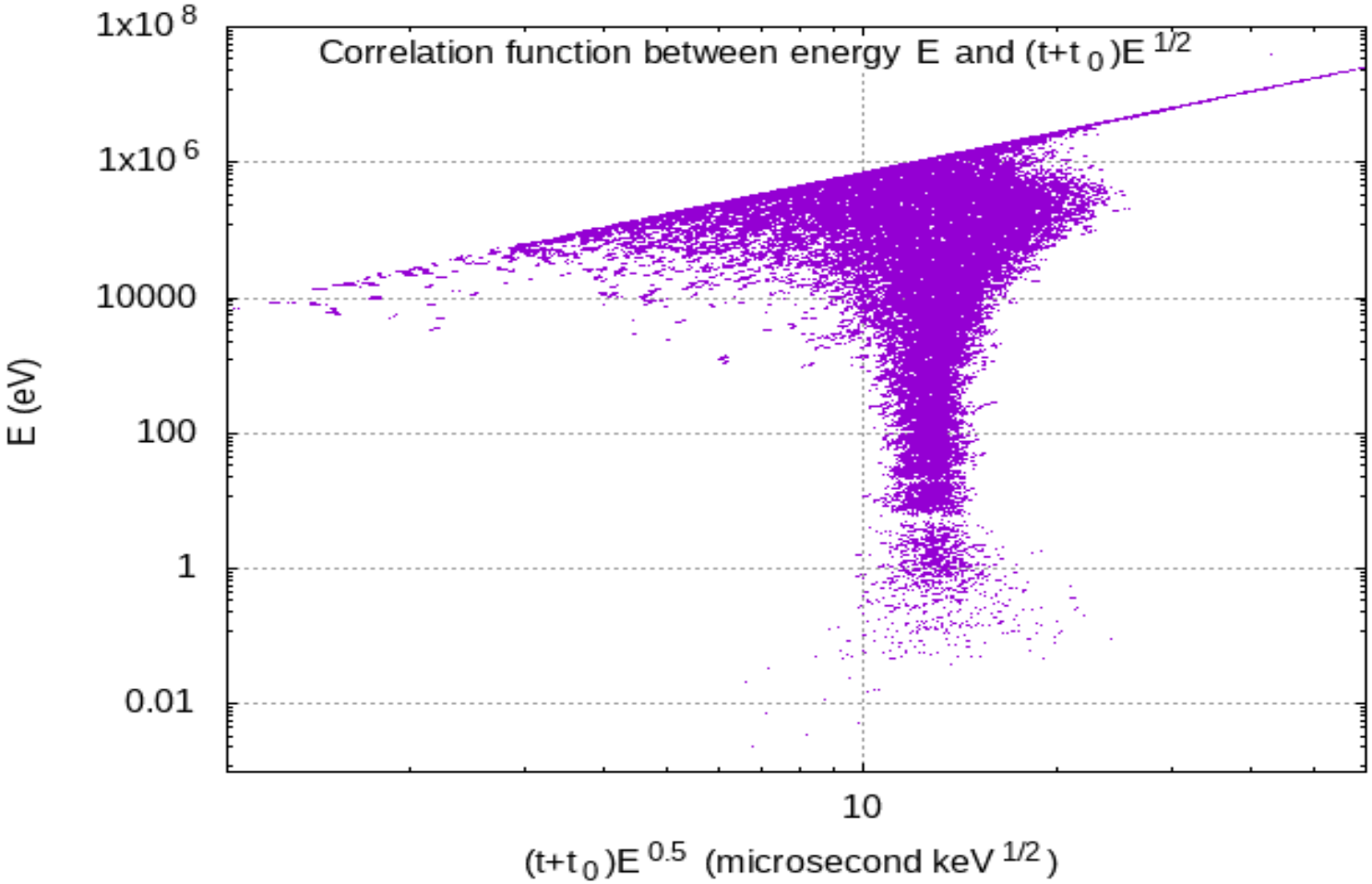
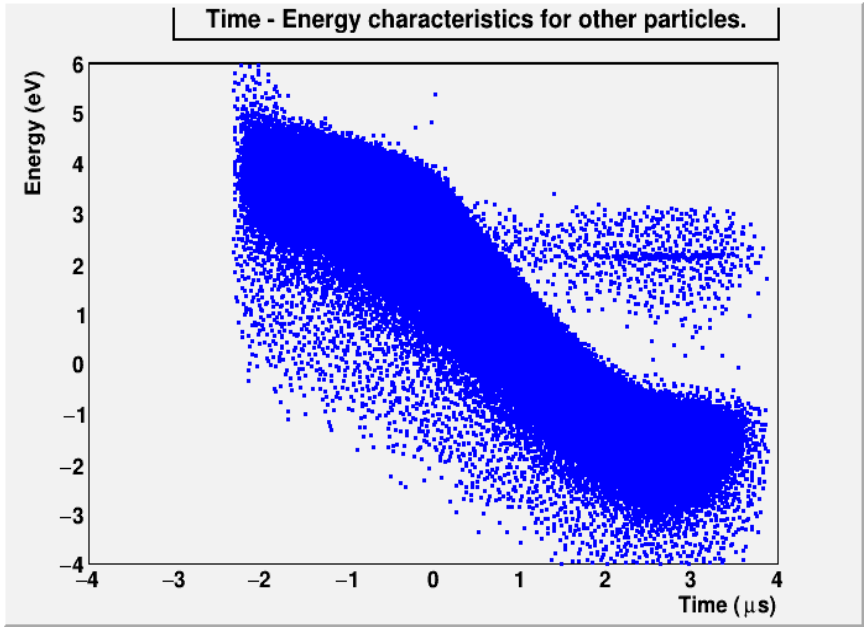


Figure: Correlation between neutron energy $E(eV)$ and $(t+t_0)\sqrt{E}$ using *QGSP_BERT_HP* physics model. Here $t_0 \approx 0.37\ \mu s$.

Distribution of Other Particles Energy and Times



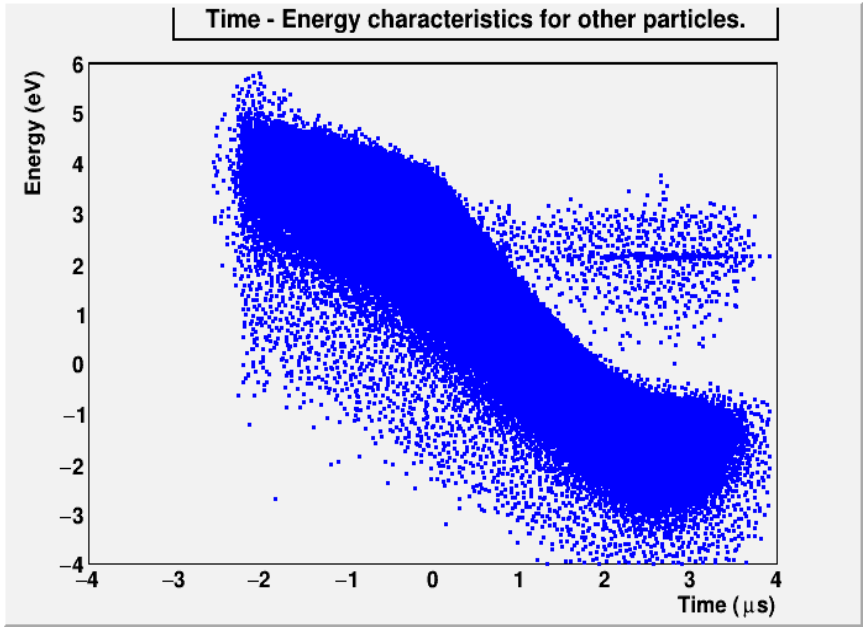


Figure: Distribution of other particles energies and times using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics model.

Distribution of Other Particles Energy and Times

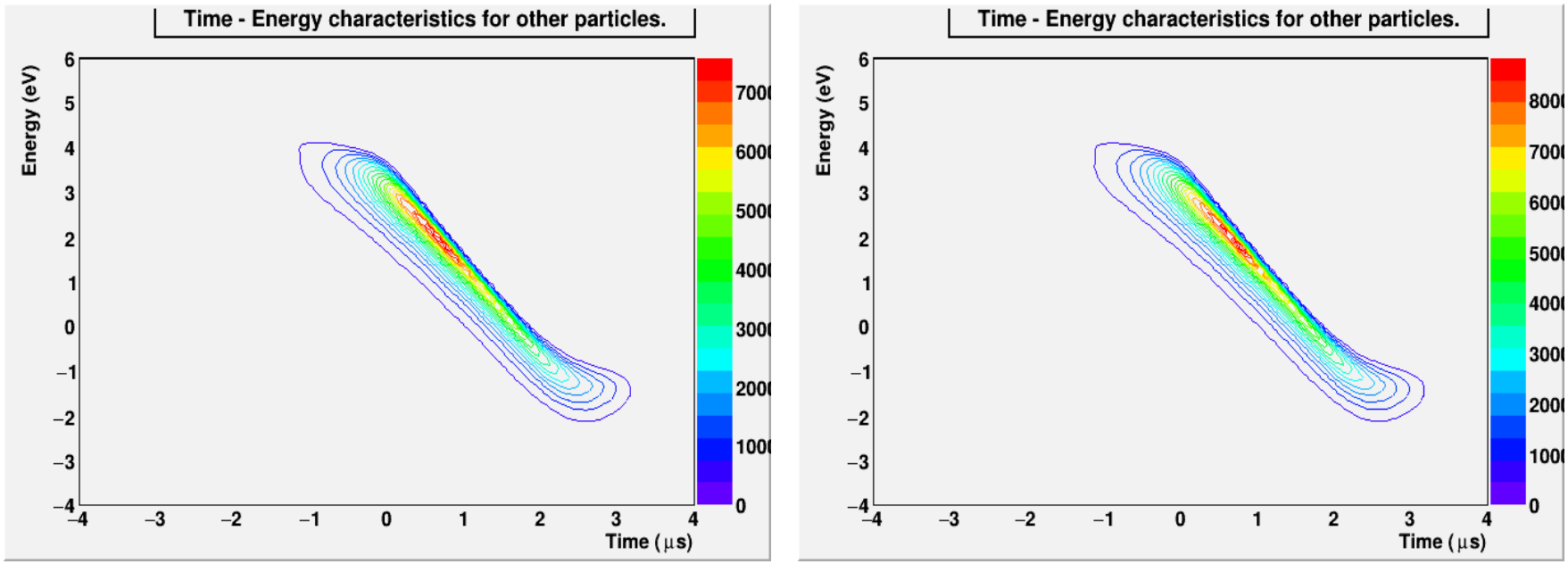
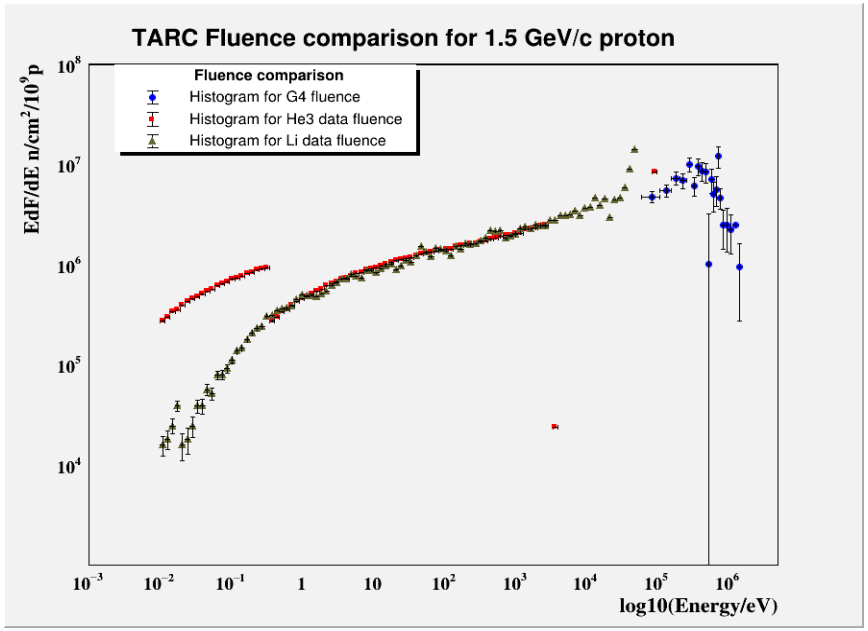


Figure: Distribution of other particles energies and times using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics model.

Distribution of fluence against energy



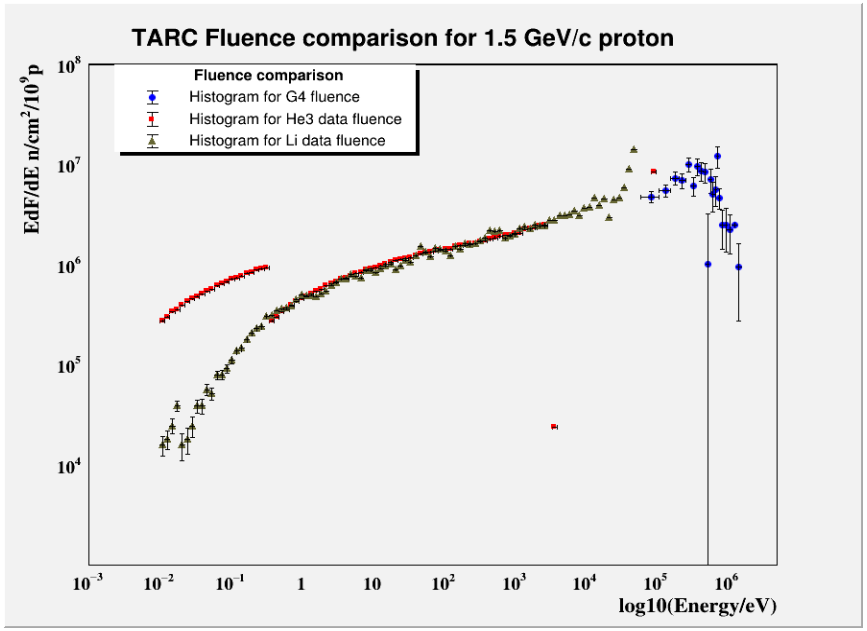


Figure: Distribution of fluence against energy for *QGSP_BIC_HP* and *QGSP_BERT_HP* physics models.

Distribution of fluence at different radial distance away from the centre.

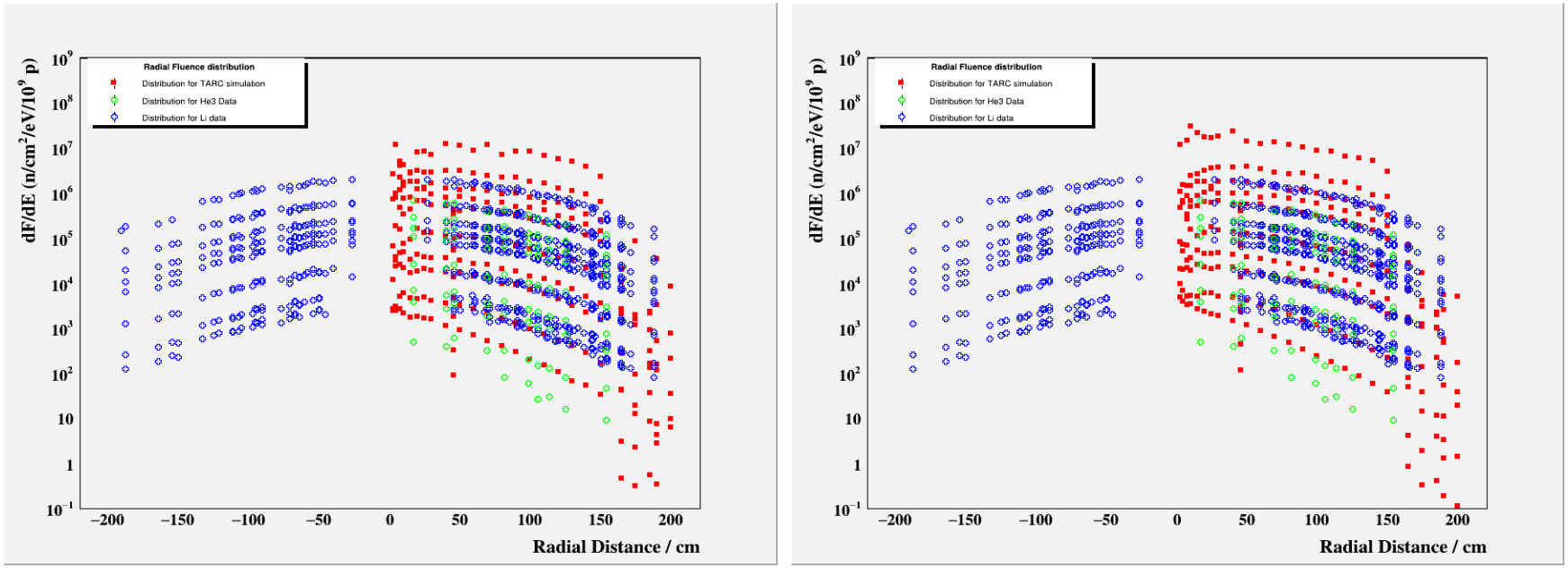


Figure: Distribution of fluence against radial distance from the centre using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics models.

Distribution of Ratio of fluence from Geant4 simulation and TARC experimental data

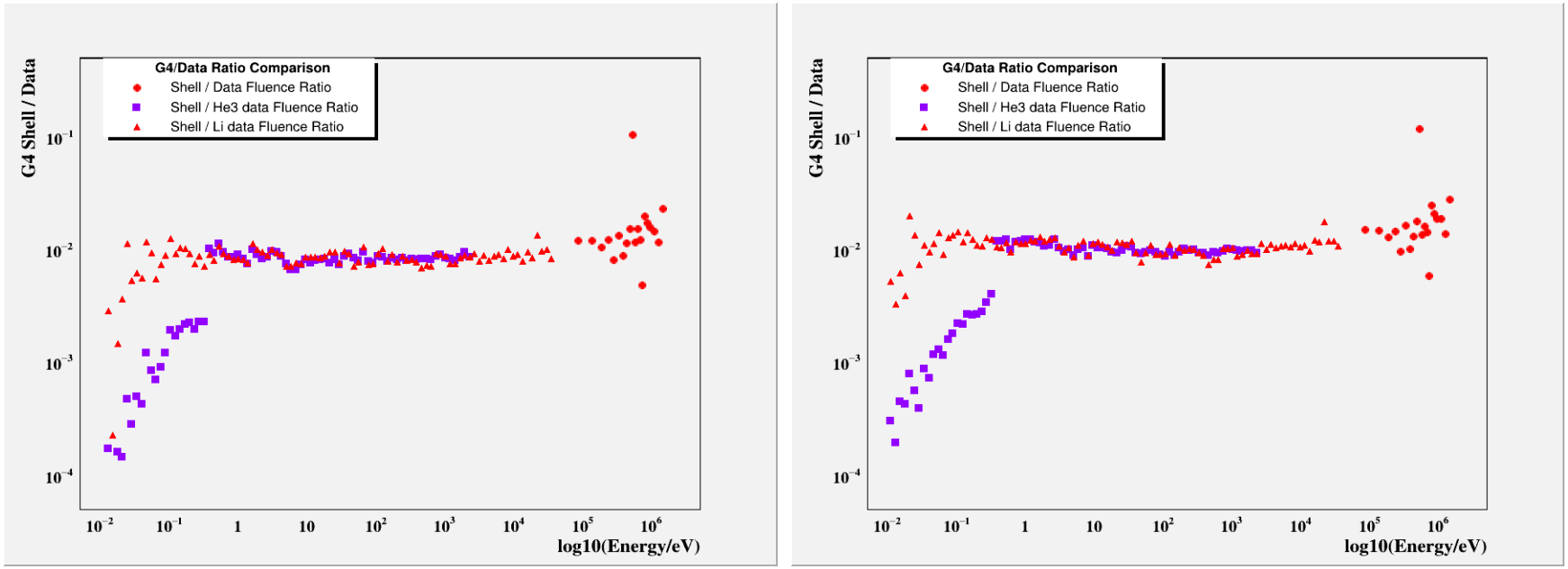


Figure: Distribution of ratio of fluence obtained from Geant4 simulation to experimental data using *QGSP_BIC_HP* and *QGSP_BERT_HP* physics models.