



## Poster session 3 – Wednesday 6 July

### P3.032 Current status of final state interactions models and its impact on neutrino-nucleus interactions

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Hadrons produced in neutrino-nucleus interactions may re-interact while propagating through the nuclear medium. Such re-interactions, often called Final State Interactions (FSI), can change the charge and multiplicity of the outgoing hadrons, as well as altering their final state kinematics. A good description of these processes is crucial for the accurate reconstruction of neutrino energy – a key part of neutrino oscillation analyses.

This poster compares predictions from the current FSI model implementations used in the event generators NEUT, Genie, Geant4, NuWro, FLUKA, and GiBUU with thin-target pion and nucleon scattering data. The FSI model used in NEUT is a microscopic cascade where the hadrons are propagated semi-classically through a nuclear medium in finite steps. A new tune of the cascade model has been performed using external data, and is presented.