

Recent and current activities

- Scaling properties of the **Green's Function MC** response functions

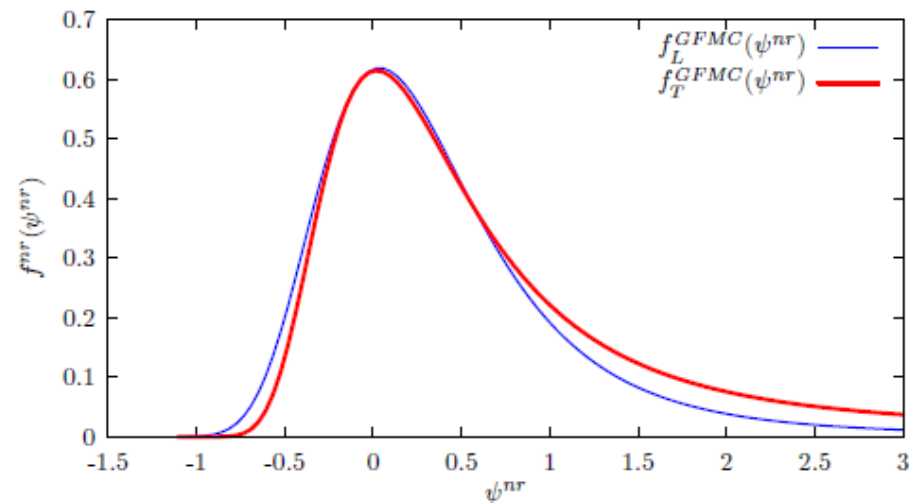
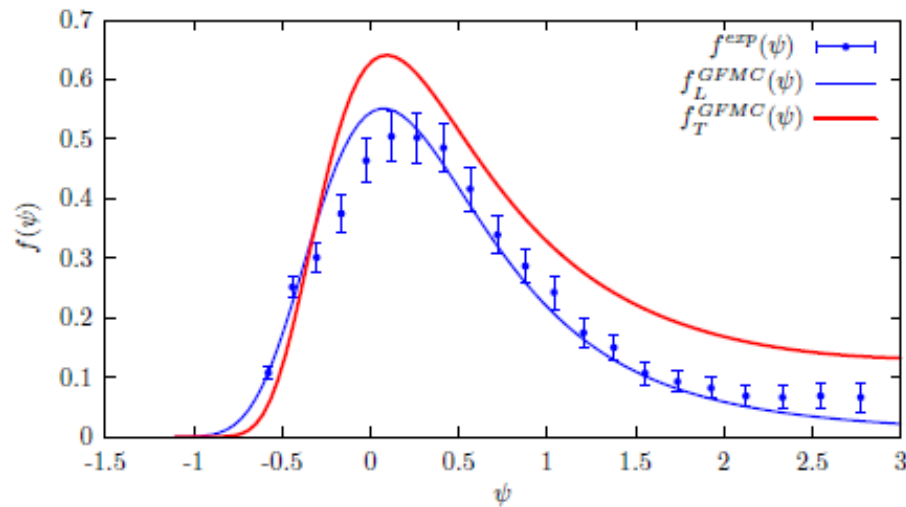
- with N. Rocco, A. Lovato and J. Nieves

- presented by Noemi at INT

http://www.int.washington.edu/talks/WorkShops/int_16_63W/People/RoccoN/Rocco.pdf

- preprint will be out soon

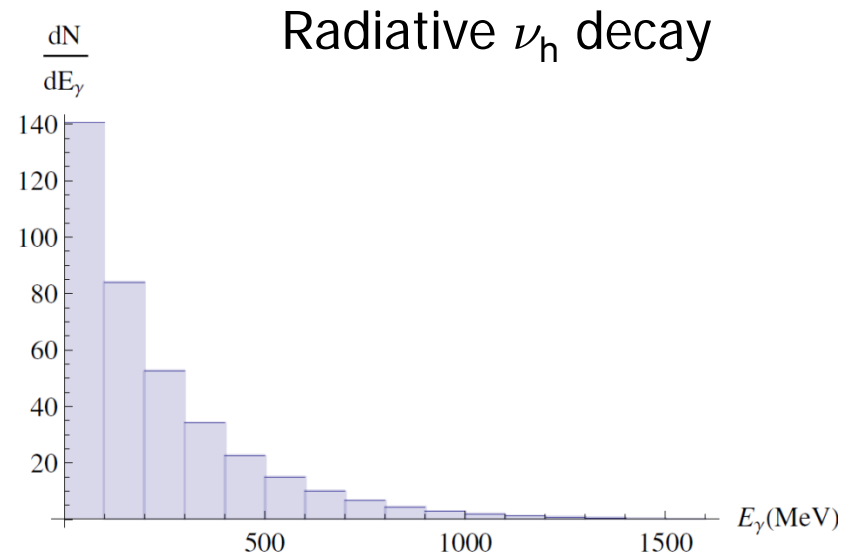
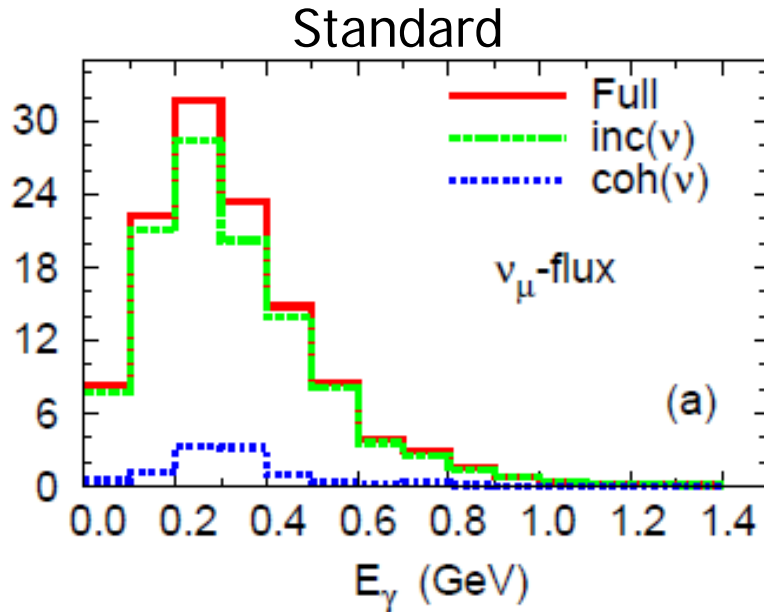
${}^4\text{He}$ $q = 400 \text{ MeV}/c$



- The **asymmetric shape** of the scaling function is present in **GFMC** in spite of its **non-relativistic** nature

Recent and current activities

- **Production** and **radiative decay** of heavy ($m_h \approx 50$ MeV) neutrinos for **SBN** (SBND, MicroBooNE, ICARUS) @ Fermilab
 - suggested (exotic) explanation for the **MiniBooNE** anomaly
 - work with E. Saúl (PhD student)
 - poster at NuPhys2016 (London, December 2016)
 - at **MicroBooNE**:



L. Alvarez-Ruso, E. Saul, E. Wang

Recent and current activities

- Scaling properties of the **Green's Function MC** response functions
- **Production** and **radiative decay** of heavy ($m_h \approx 50$ MeV) neutrinos for **SBN**
- Coherent Kaon production at **MINERvA** energies
 - Derivation of a **Berger-Sehgal** type of cross section (in terms of K-A elastic scattering cross section data)
 - Comparison to **microscopic** model of LAR et al, PRC87 (2013)
 - work in progress with E. Saúl
- Resonant model in GENIE
 - consistency with electron scattering data
 - with S. Dytman and L. Jiang.
 - proceeding too slowly...
- Coherent photon emission as a background to nu-e measurements
 - discussed with Jorge.