

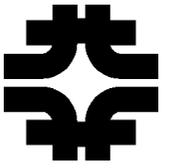
neutrino event generation in the EventKinematics package

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Outline



- Blah
 - blah, blah
 - more blah
 - ?
- Foo
 - bar
 - double-bar
- ?

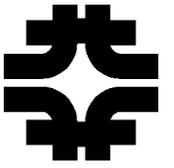


Title: EventKinematics.dia

Creator: Dia v0.94

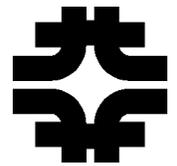
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UML





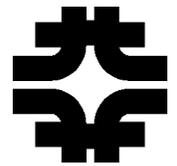
Neutrino Event Generator Strategy



- initialize geometry, flux, neugen(genie)
 - estimate maximum weight
- normal “loop”
 - pull neutrino from flux generator
 - translate beam to detector coords
 - (optional) flavor modification [oscillations or permutations]
 - walk geometry along nu path, accumulate mass distribution
 - sum mass segments, call cross sections on materials/elements
 - interact? based on total $xsec \cdot mass$, if not goto “pull neutrino”
 - pick material, pick vertex location
 - neugen generate kinematics (NC/CC, x, y, particle list)
 - put particle list in std form, objectify extra info



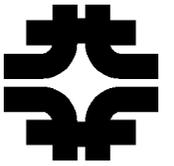
Flux “generator”



- generalized API – interchangeable/pluggable alternatives
 - first implementation is gnumi ntuples (either paw or h2root version)
- initialize upon VldContext *and* class type
 - loan pool concept – VldRange
 - consult DB to pick up different beam configs (set VldRange)
- normal calls to gnumi-ntuple version proceed along the lines of:
 - select entry from ntuple, accept/reject against appropriate weights (including x-y reweight + energy shift)
 - accumulate effective POTs
 - return p4 + xyz



Conclusions



- yada
- yada