SIMULATION - Feature #3944

Fluka11 DST not properly normalized?

05/28/2013 07:54 AM - Rashid Mehdiyev

Status:	New	**Start date:**	05/27/2013
Priority:	High	**Due date:**	06/07/2013
Assignee:	Rashid Mehdiyev	**% Done:**	0%
Category:		**Estimated time:**	0.00 hour
Target version:		**Spent time:**	0.00 hour

Description

Anna Holin has reported a large difference in Reco Energy spectra coming from Fluka11 vs Fluka08. The claim is that Fluka11 spectrum (normalized to the same POT?) lies systematically higher than Fluka08 corresponding spectrum by 20%. That margin of difference is not supported by Fluka11/Fluka08 ratio stemmed just from FLUGG flux files comparison (A. Radovic). The Fluka11/Fluka08 ratio from the fluxes is energy dependent and varies from ~3% to ~8-9% after energy> 7 GeV.

There are several hypotheses have been thrown around:

1. Mistakes produced during the generation of Fluka11 samples at TACC.
2. The difference is instigated by the fact that Fluka11 files were made from overlaid MC,
while Fluka11 MC files were made as detector only.
3. Reconstruction of Fluka11 files was made incorrectly - sntps are not correct.
4. DST processing was not correct, sntps are fine.
5. Mistakes with POT counting when comparing two spectra.

The results for those check are going to be listed here.

A number of checks have been performed to