Work in progress
June 2019

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Mohammed V University, Rabat, Morocco

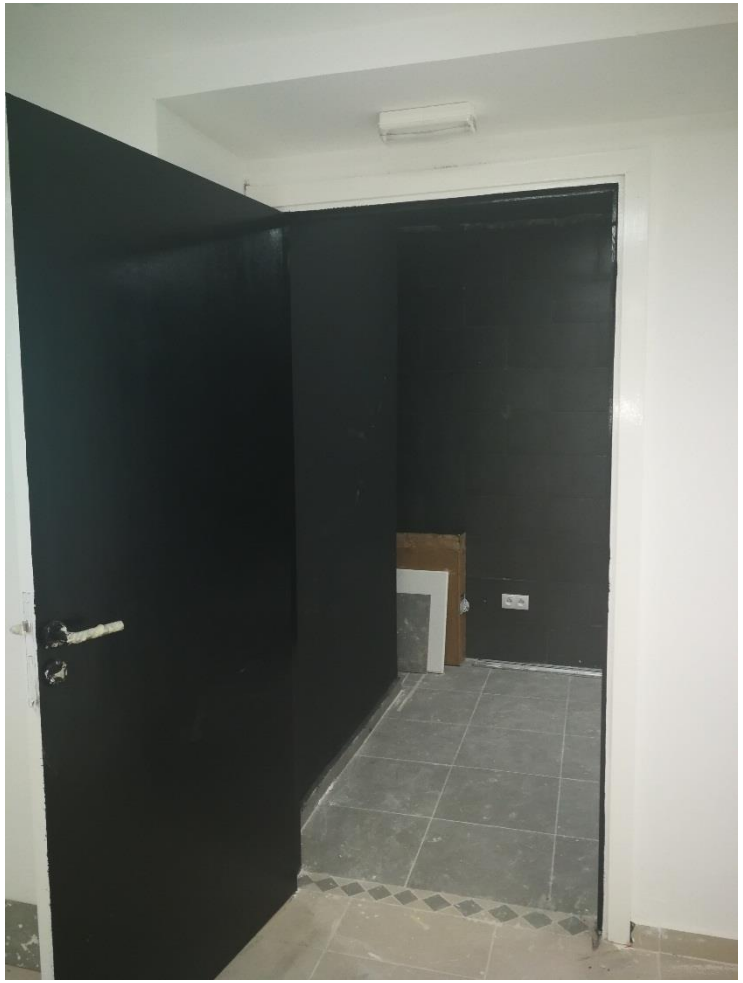
Room renovation

- Most of the renovation work is done

Room renovation

Room renovation

Room renovation



Room renovation

Introduction

- The production includes magnetic monopoles, atmospheric muons and neutrinos (latest MC production)
- The simulation based on KYG of magnetic monopoles has been performed, for $\beta = 1$.
- Data collected by the ANTARES telescope up to 2017 has been used (~2507 days).

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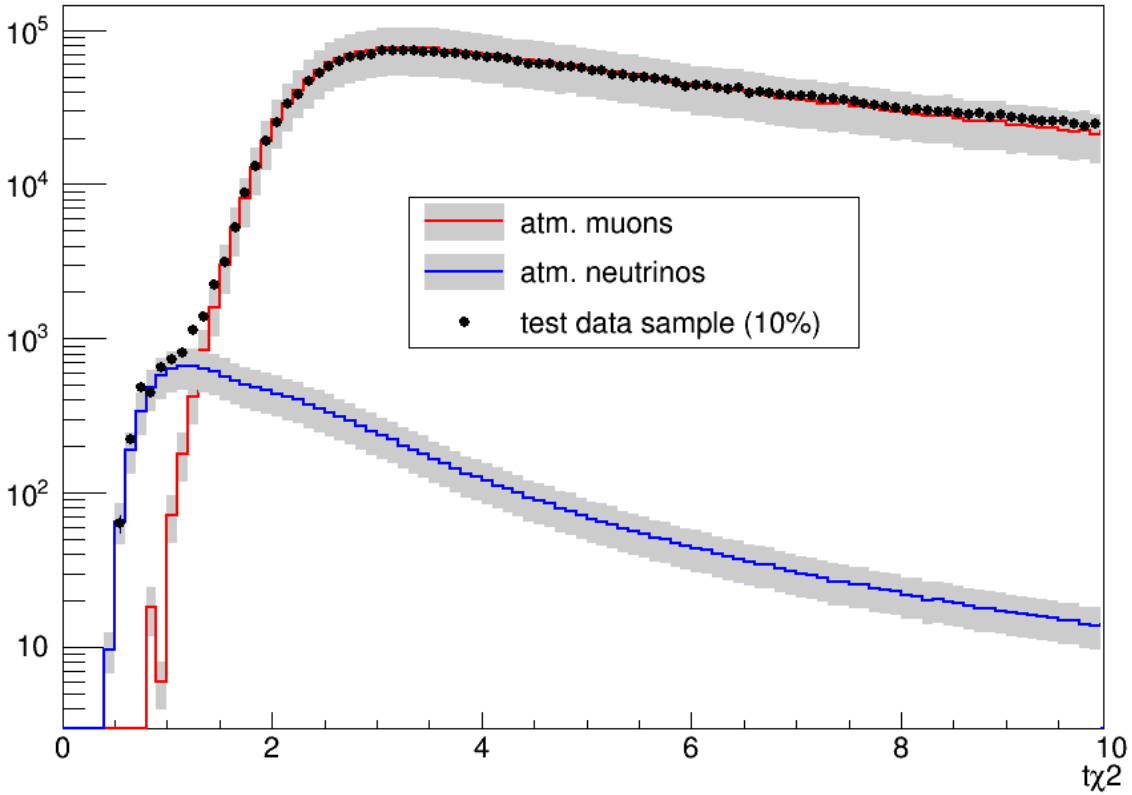
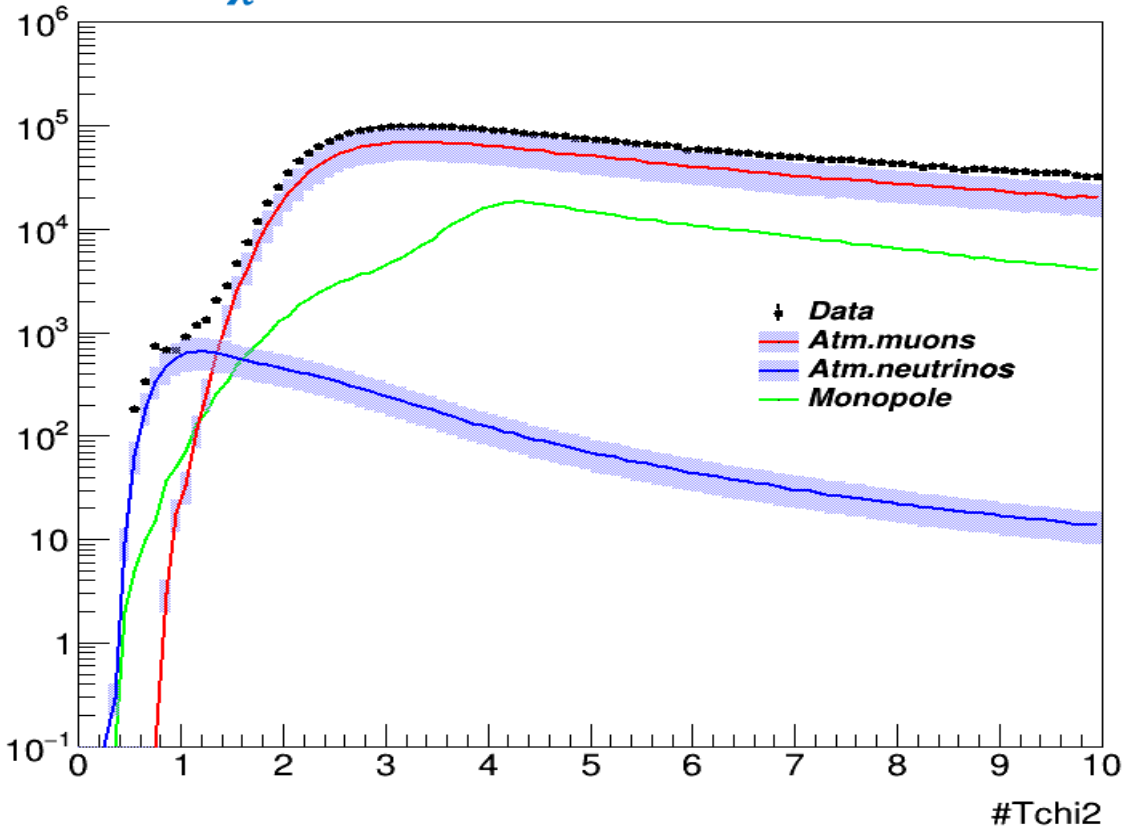
- The plot of $t\chi^2$ and Nhit does not show a good agreement between Data (0 runs) and MC (mupage).
- Simulation of magnetic monopoles and reconstruction of MC for β free are ongoing.

Agreement plots

tχ2 : Quality of reconstruction

Initial cuts :
nlines ≥ 2 & zenith ≤ 90 & tχ2 < 10





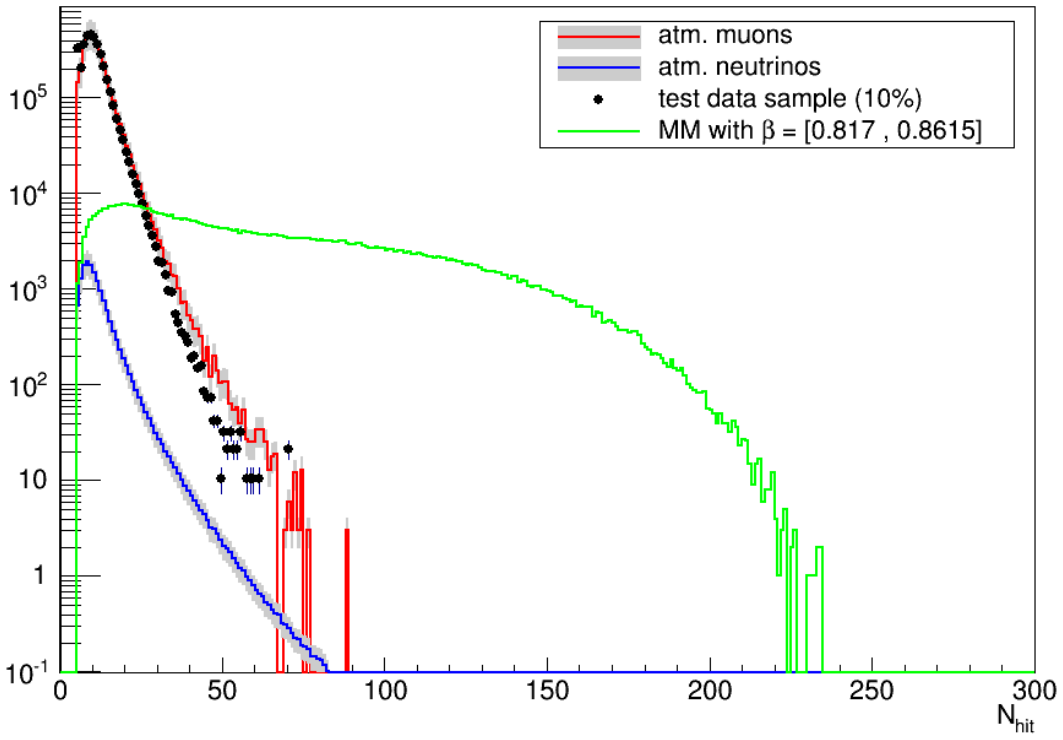
- Data up to 2016 is considered (~1802 days)
- Mupage V03

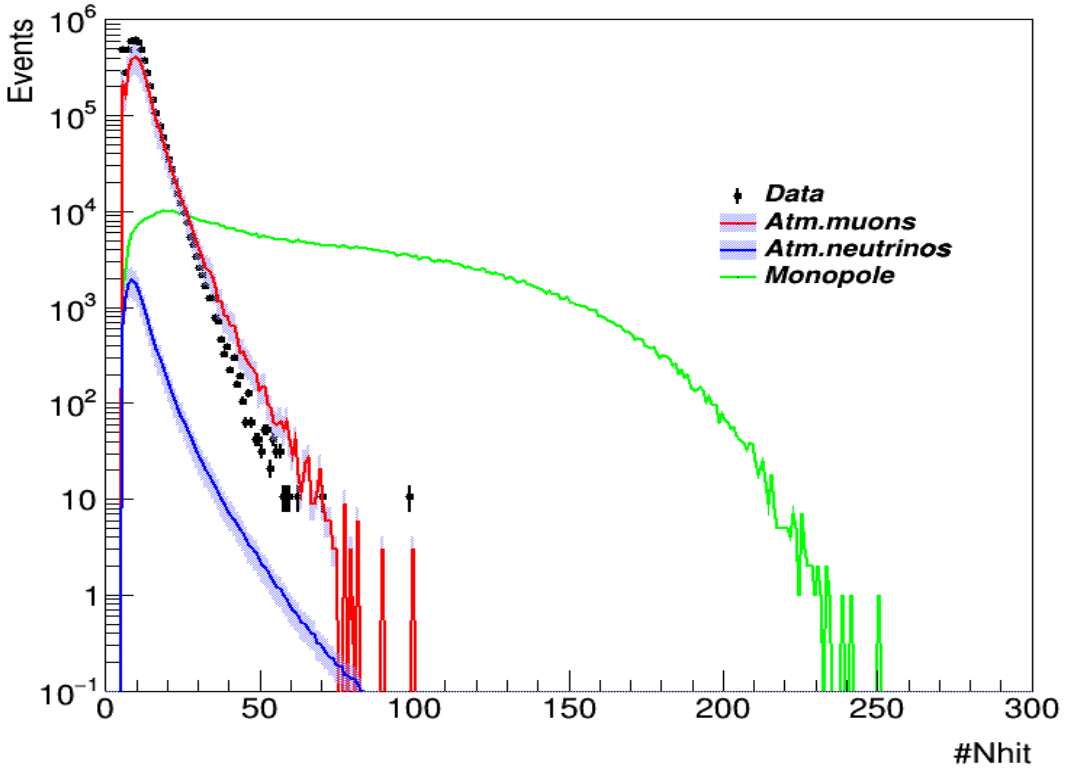
- Data up to 2017 is considered (~2507 days)
- Mupage V04

Agreement plots

Nhit : Number of floors with the chosen track hits

Initial cuts :
nlines ≥ 2 & zenith ≤ 90 & tχ2 < 10





- Data up to 2016 is considered (~1802 days)
- Mupage V03

- Data up to 2017 is considered (~2507 days)
- Mupage V04

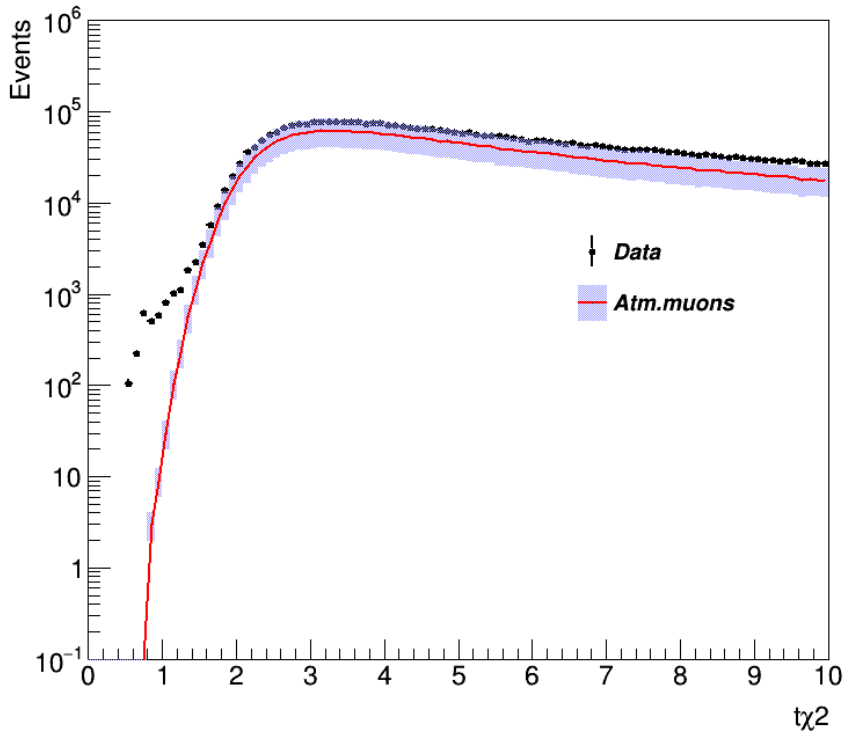
Investigation

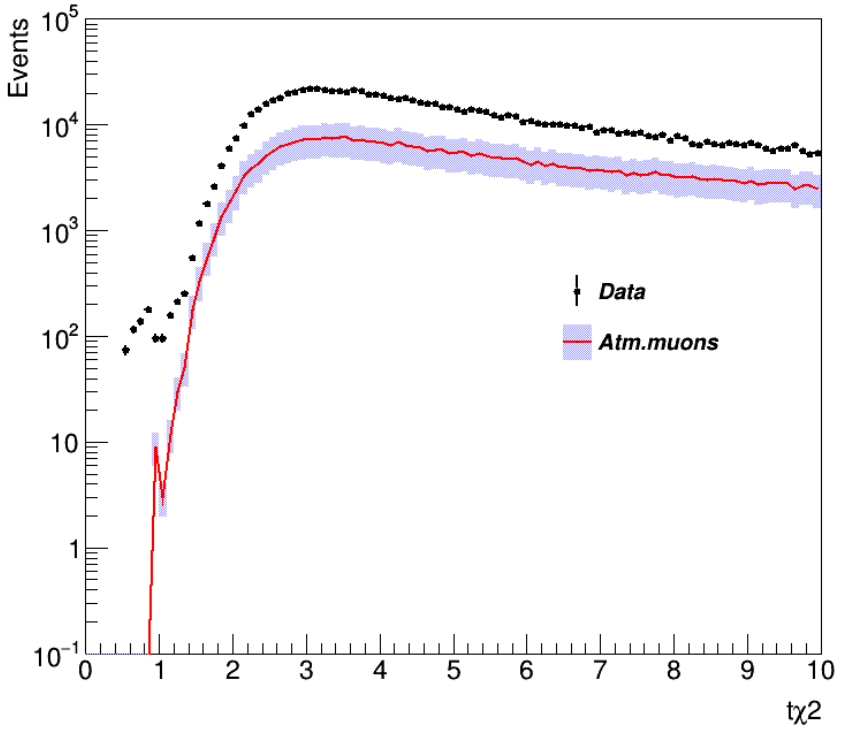
To see the agreement, we proposed to plot Data 0runs vs MC (mupage V4) for the runs up to 2015 (run 79222) and for runs from 2015 to 2017 (79222 to 85683).

Agreement plots

tχ2 : Quality of reconstruction

Initial cuts :
nlines ≥ 2 & zenith ≤ 90 & tχ2 < 10





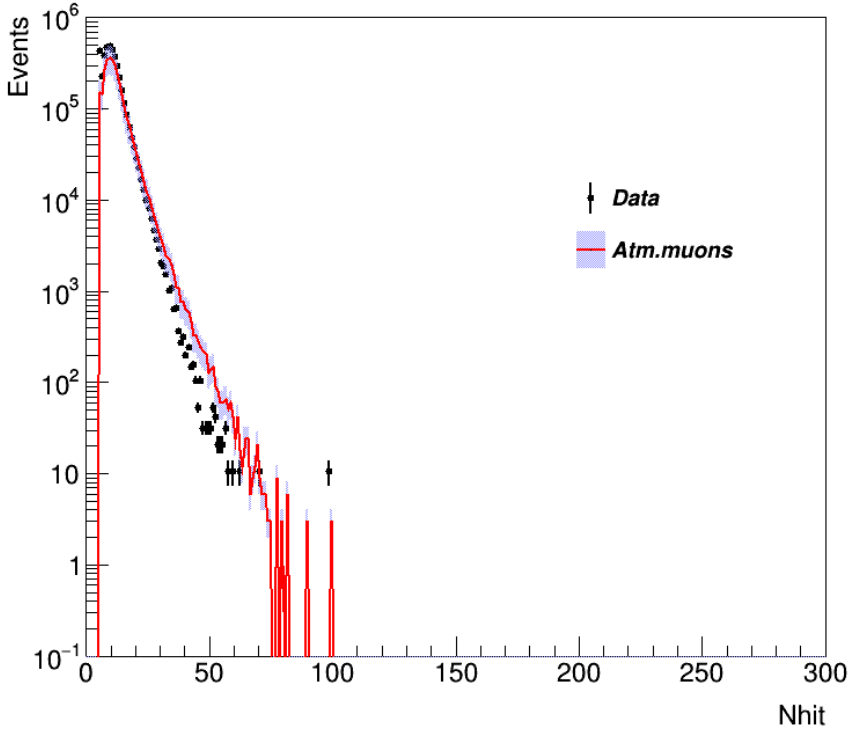
- Data up to 2015 is considered
- Final run 79222

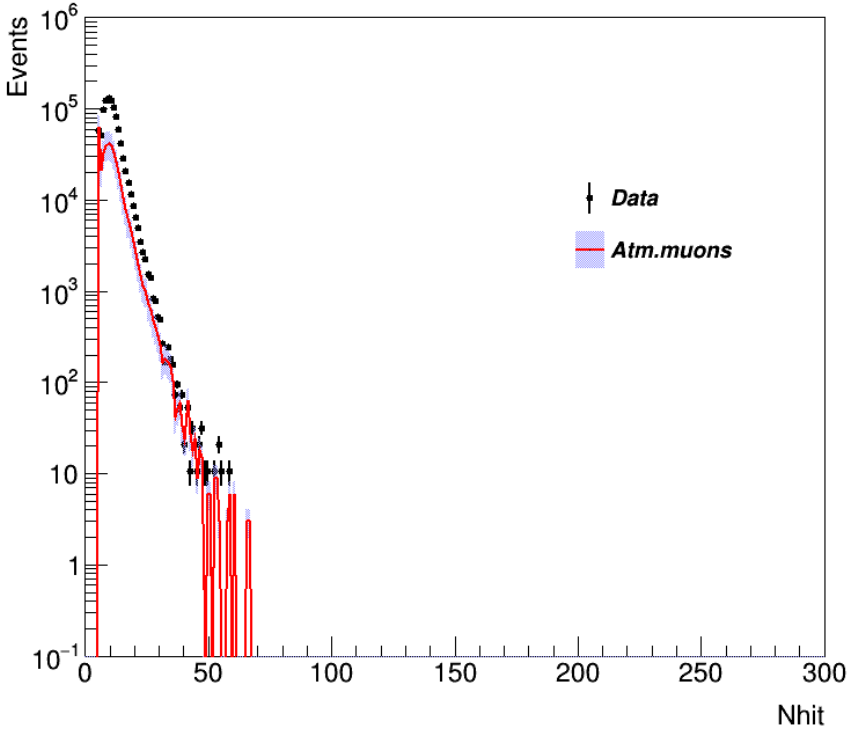
- Data between 2015 and 2017is considered
- Runs between 79222 and 85683

Agreement plots

Nhit : Number of floors with the chosen track hits

Initial cuts :
nlines ≥ 2 & zenith ≤ 90 & tχ2 < 10





- Data up to 2015 is considered
- Final run 79222

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What to do ?

- Solve the problem of the agreement for the plots of the initial cut
- Is it sufficient to work with just runs until 2015 ?
- Finish off the extrapolation and calculate the sensitivity for the high ranges of β (β=1)
- Finish off the reconstruction and simulation for the lower ranges of β (β free)
- A discussion with Luigi had been initiated