



# Update

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A. Felipe

Sprace

## □ General Relativity

- S.M. Carroll, Spacetime and Geometry: An Introduction to General Relativity (CUP, 2019)
- V. Ferrari, L. Gualtieri, P. Pani, General Relativity and its applications (CRC, 2020).
- R. Wald, General Relativity (Chicago, 1984).

## □ Dark matter

- Stefano Profumo, An Introduction to Particle Dark Matter

## □ Standard Model

- S. F. Novaes, (IFT-UNESP), Standard Model: An Introduction

# Studies of minimal freeze-in models

- Studies of minimal freeze-in models
  - Disappearing Tracks.
  - Source:  
<https://arxiv.org/abs/1811.05478>
- Tools
  - Madgraph Studies UNDERWAY
  - ROOT Studies UNDERWAY
- Reconstruction UNDERWAY
  - $pp \rightarrow F \bar{F} \rightarrow \mu \bar{\mu} s s$

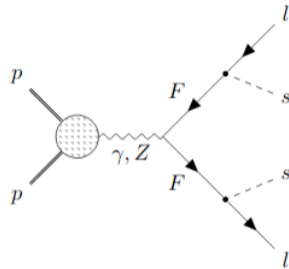
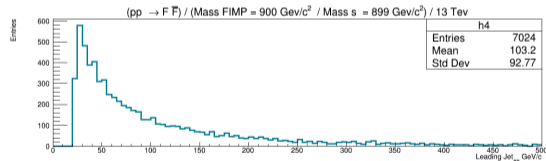
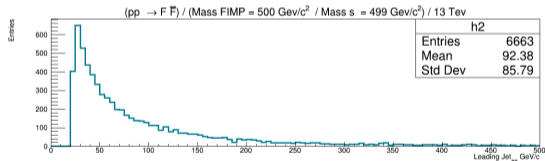
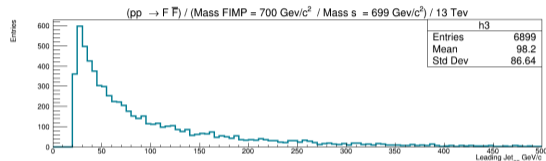
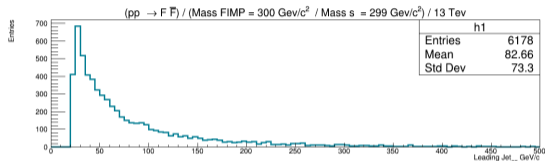
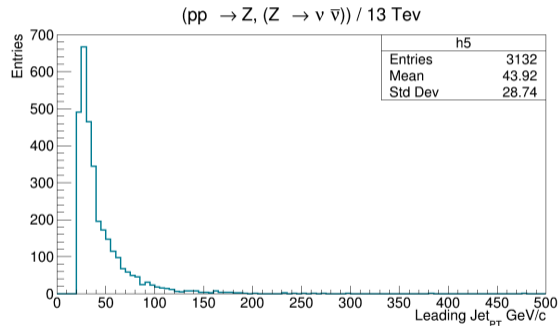
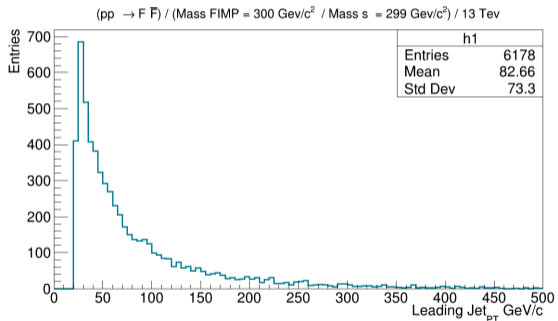


Figure: Decay process of  $F$

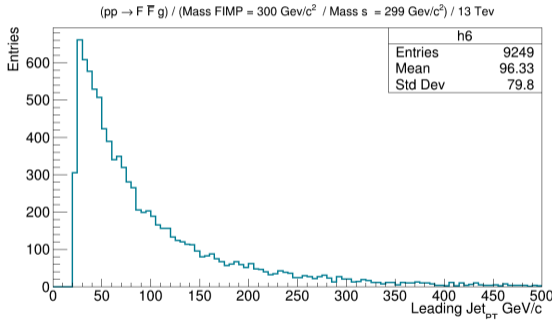
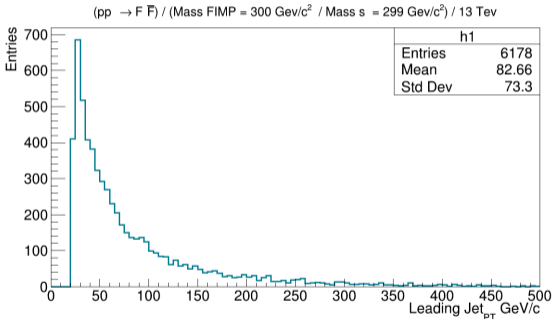
# Simulation



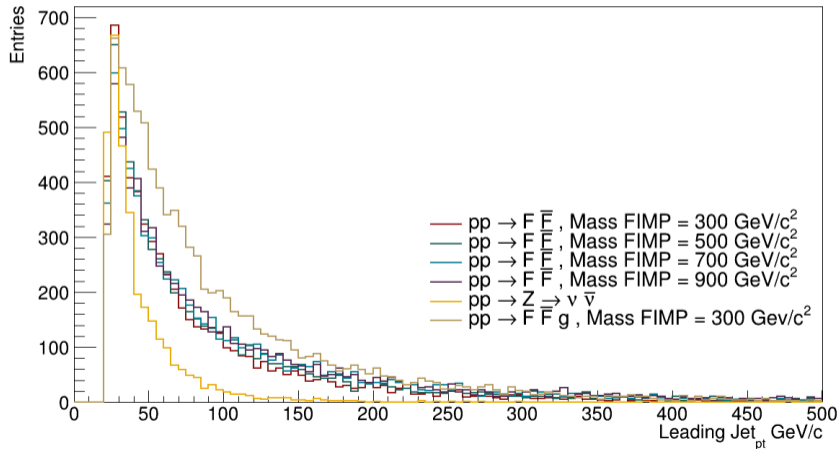
# Simulation



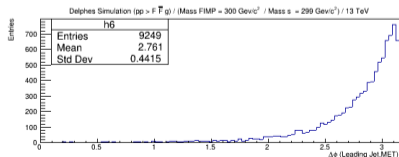
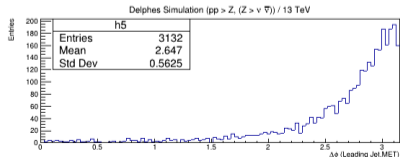
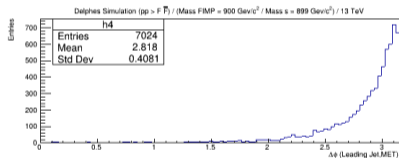
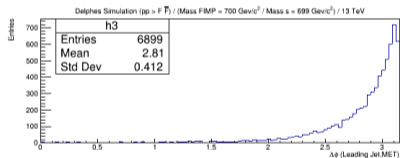
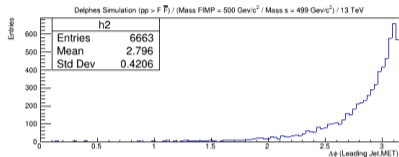
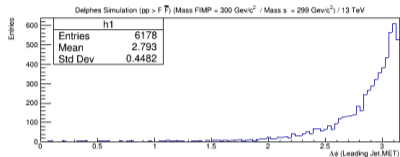
# Simulation



Delphes Simulation 13 TeV

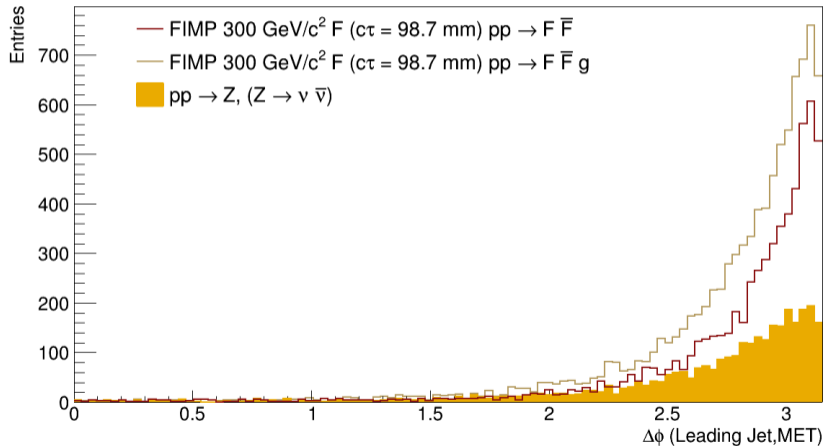


# Simulation

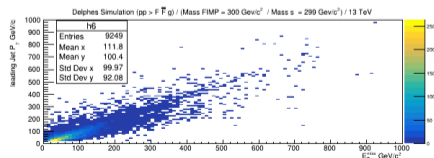
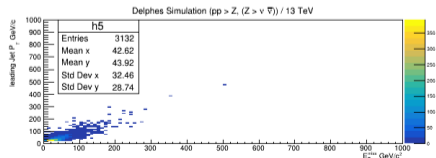
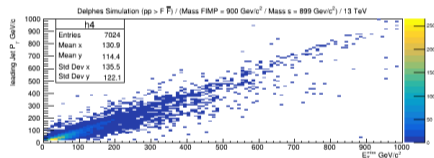
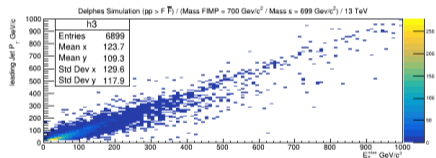
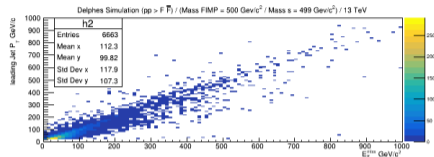
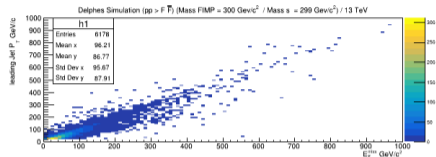




## Delphes Simulation 13 TeV



# Simulation



# Simulation

