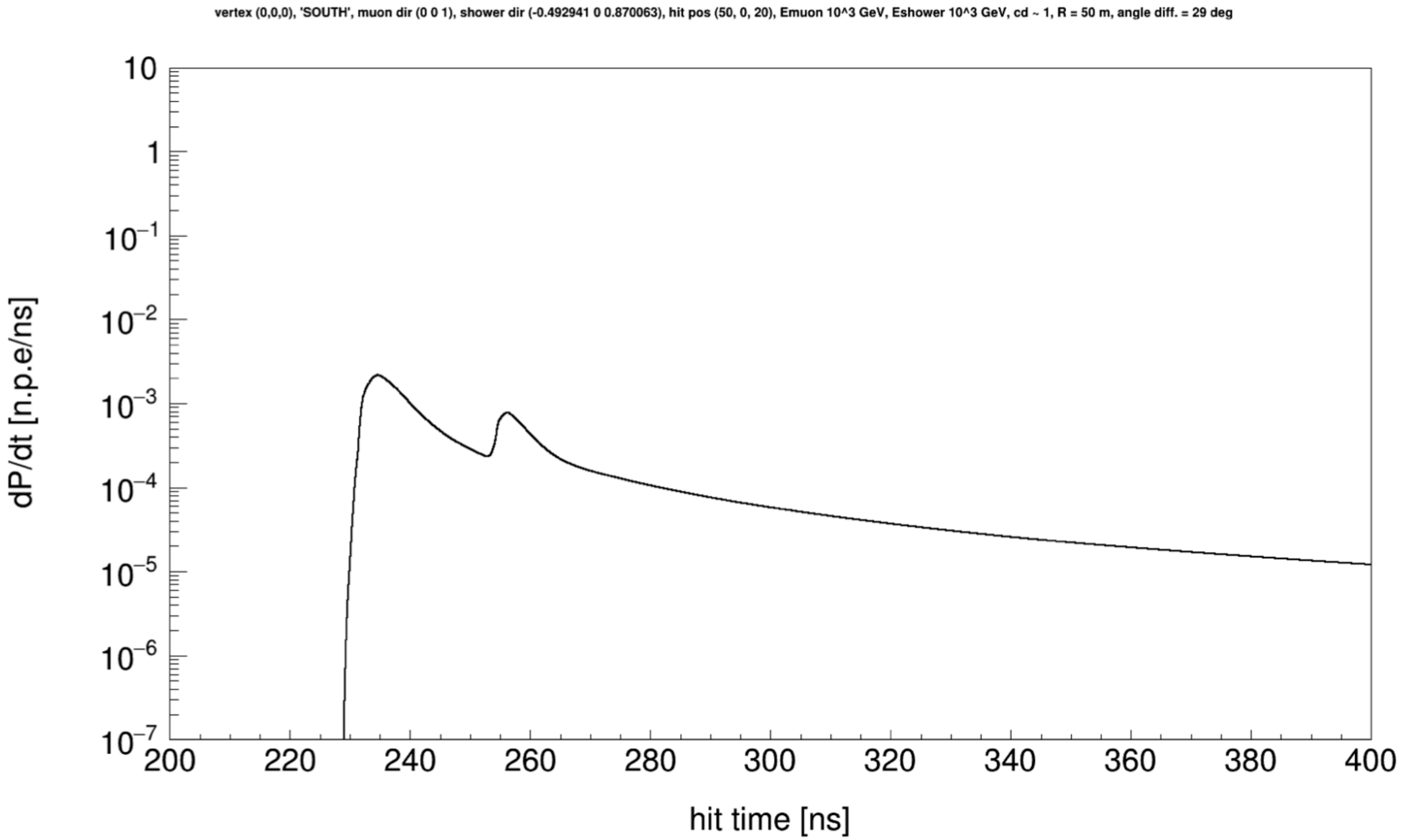
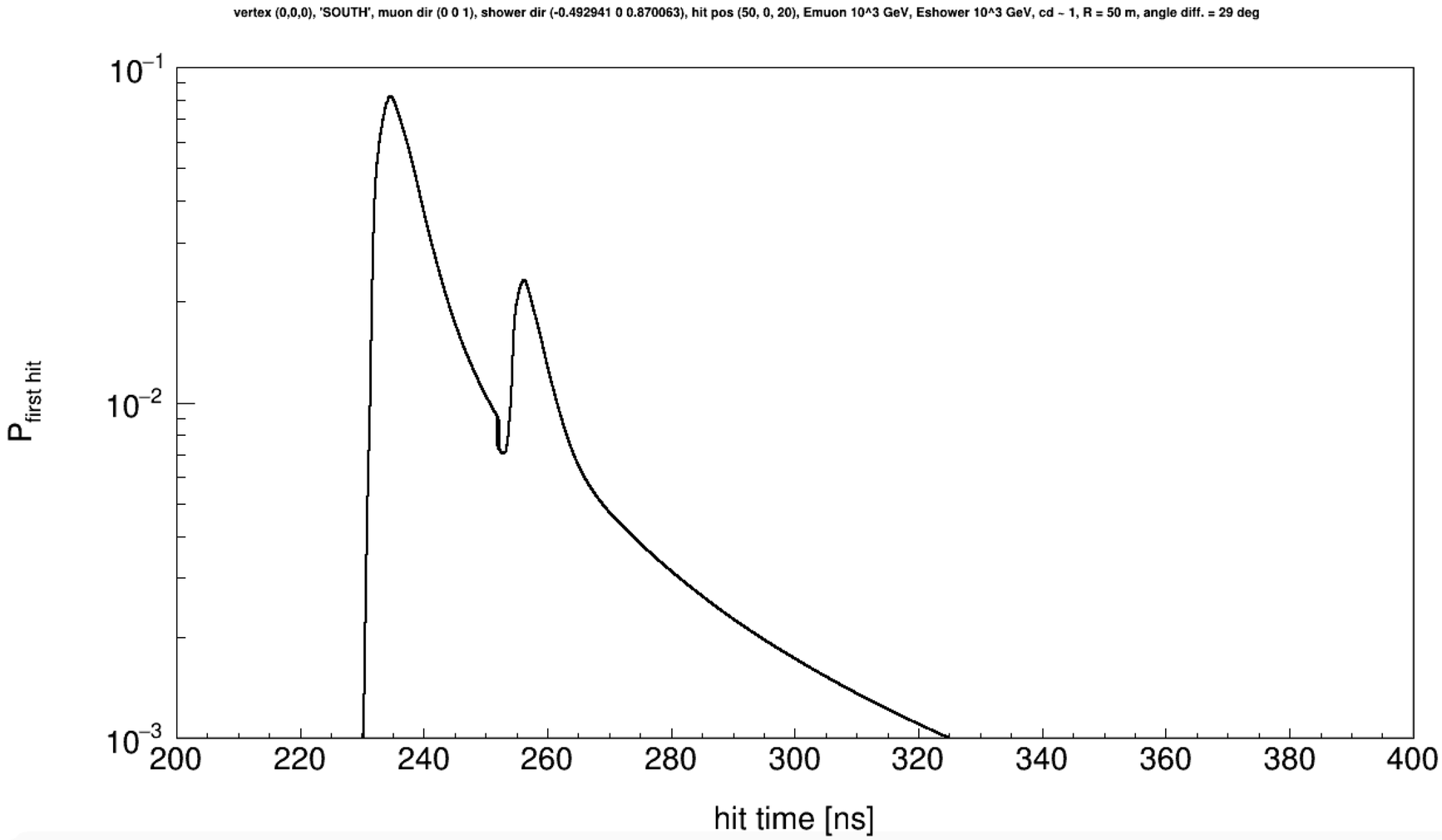
- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined PDF



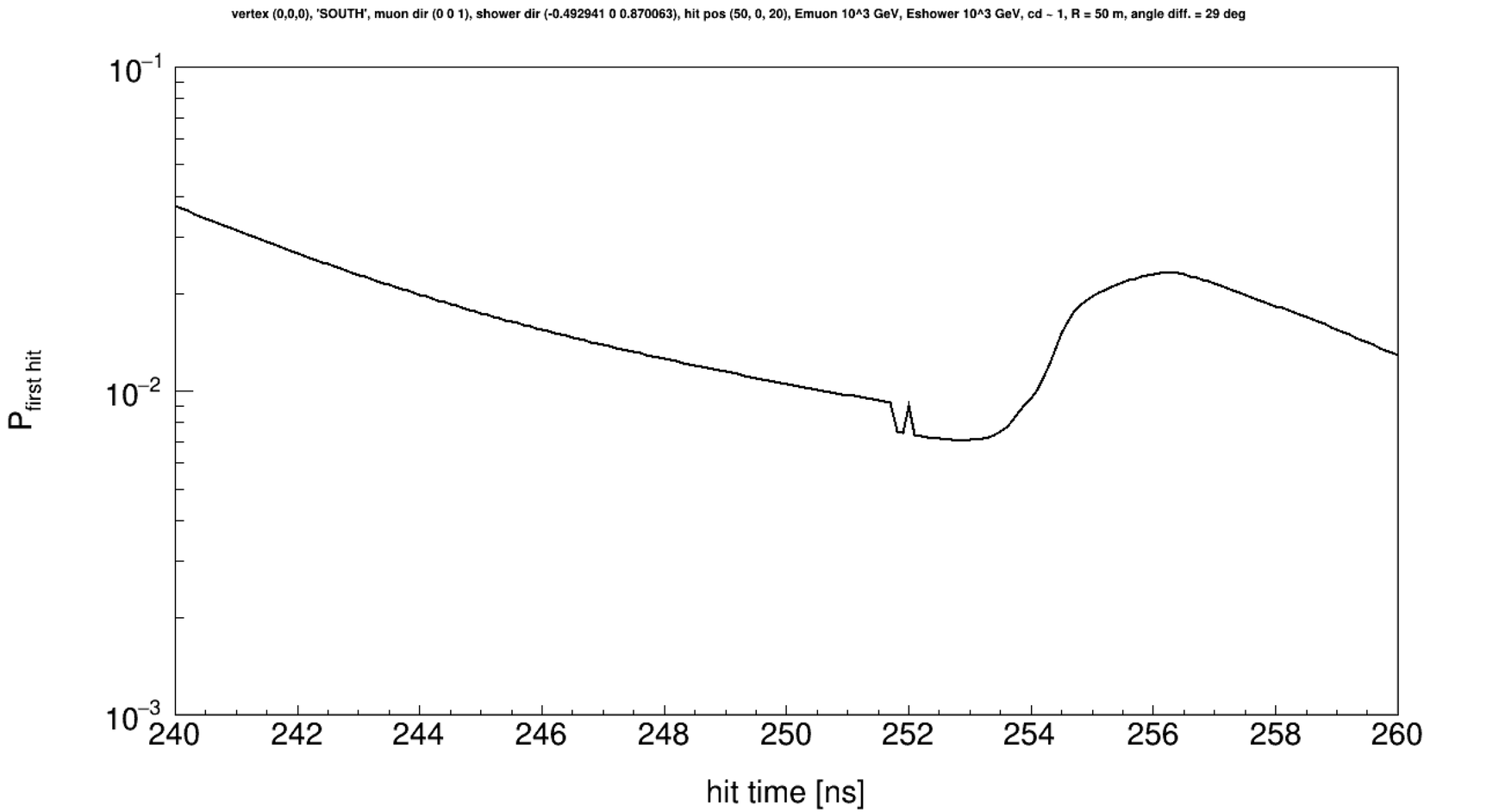
- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined first hit probability

$$P_{\text{first hit}} = f \cdot \frac{e^{-v}}{1 - e^{-V}}$$



- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined first hit probability

$$P_{\text{first hit}} = f \cdot \frac{e^{-v}}{1 - e^{-V}}$$



- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined first hit probability

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 shower PDF values   0.f   0 .v   0 .V   -nan PDFshower.getP()
 combined PDF values 0.00024562.f 0.0196292 .v 0.0270165 .V 0.00903572 combined.getP()
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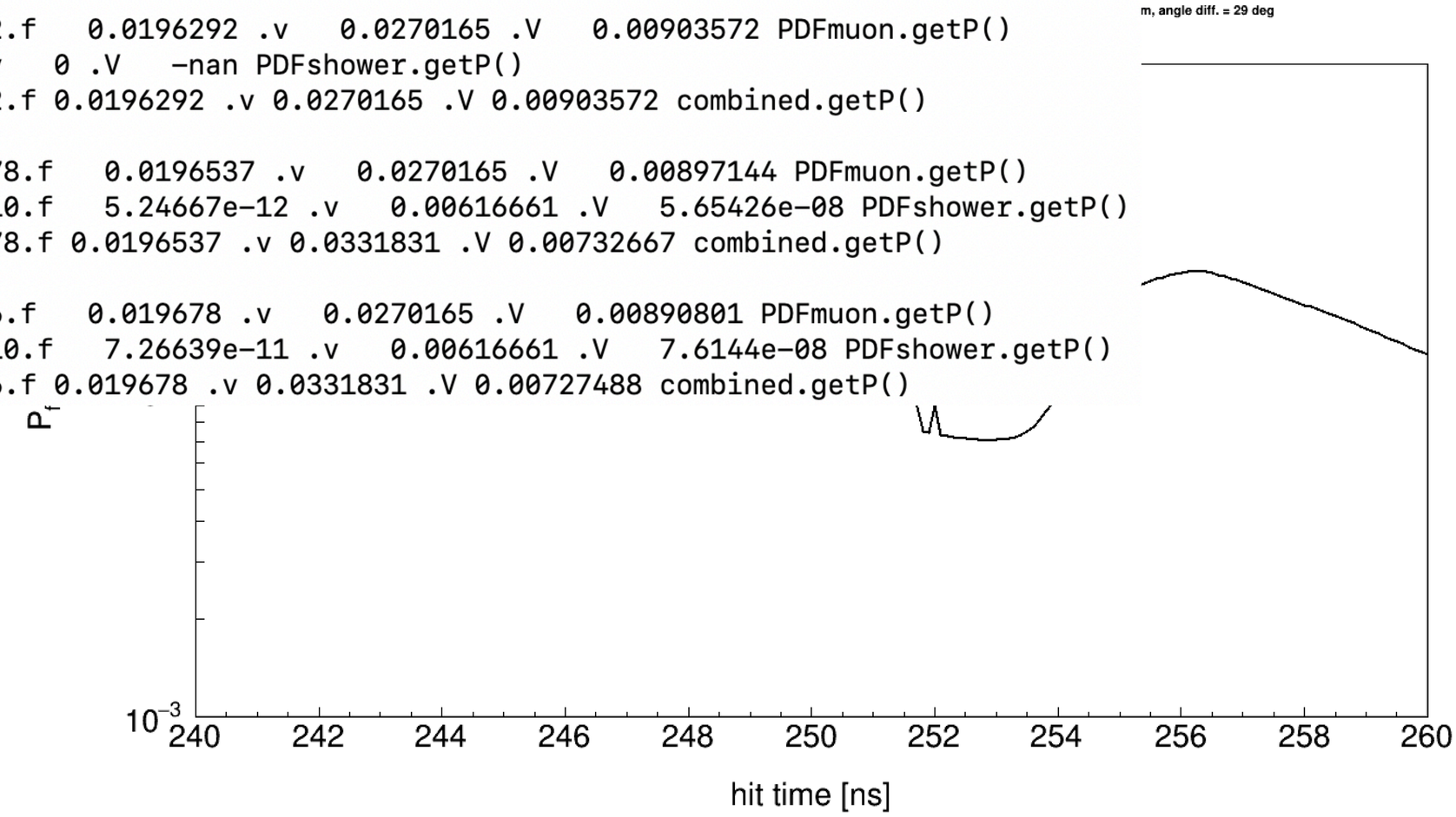
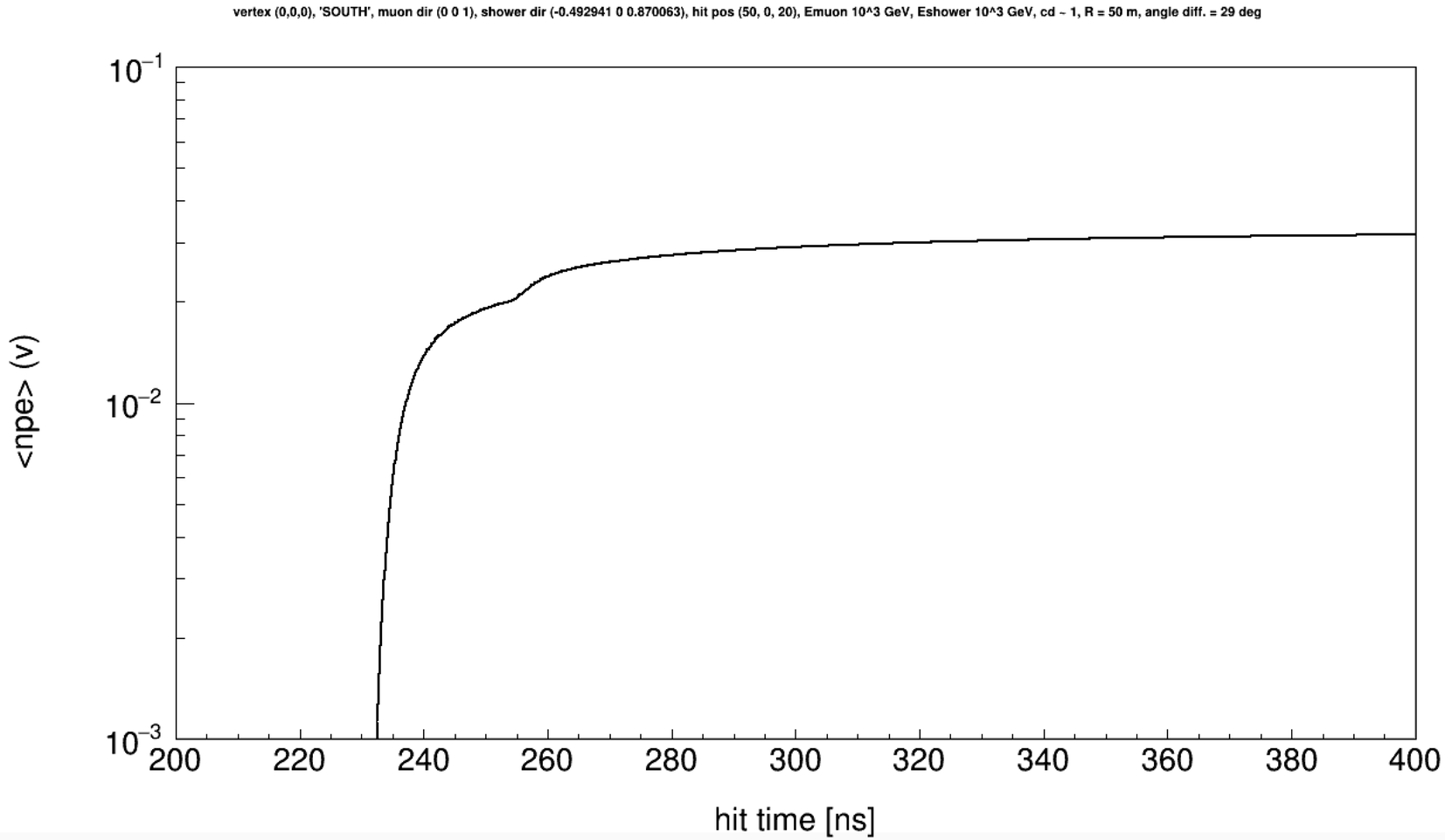


- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined first hit probability

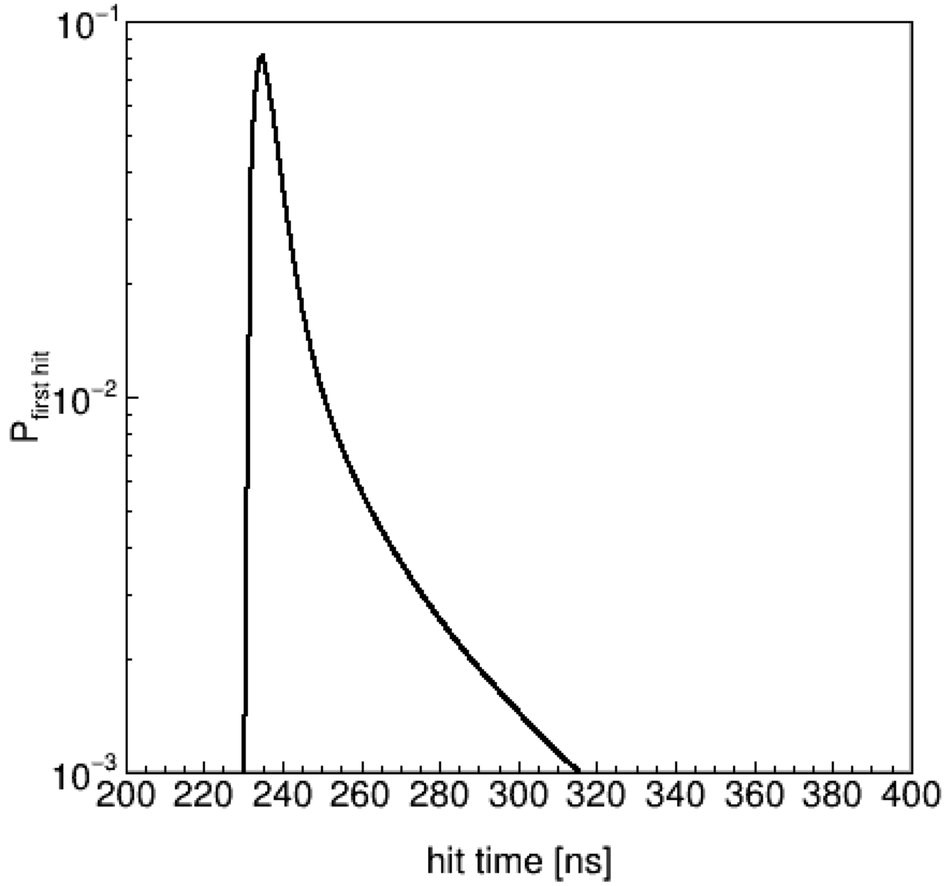
- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Combined <npe>

$$P_{\text{first hit}} = f \cdot \frac{e^{-v}}{1 - e^{-V}}$$

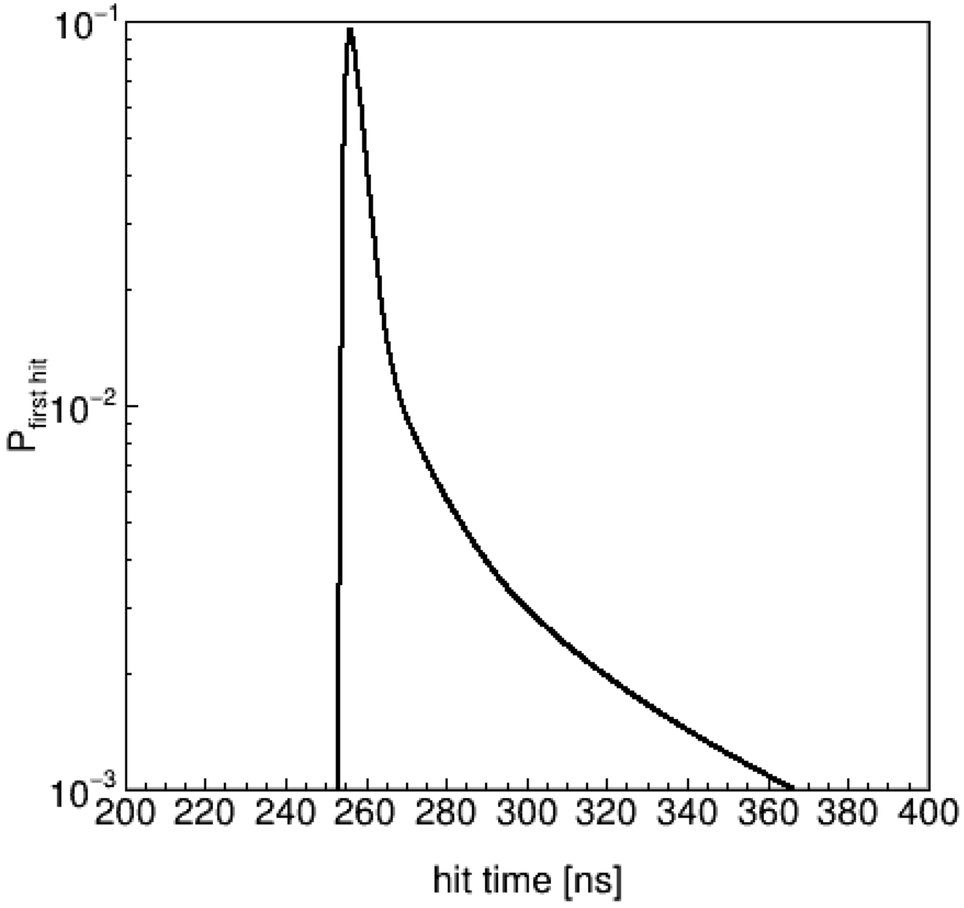


- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Looking at the individual P_first hits..

Muon



shower



- Event vertex (0,0,0), hit (50,0,20), roadwidth = 50 m
- Looking at the individual P_first hits on same plot