Contribution ID: **180** Type: **Poster reactor**

Seasonal muon modulation at Daya Bay

In recent years, the underground muon flux was observed to be seasonally modulated, as caused to atmospheric density variations due to the atmospheric temperature. With eight identically designed detectors located in three underground experimental halls at different overburdens (250, 265 and 860 meters of water equivalent), the Daya Bay reactor antineutrino experiment is an excellent facility to study this phenomenon. With a dataset collected over two-years, the underground muon rate is observed to be positively correlated with the effective atmospheric temperature, and to follow a seasonal modulation pattern. Results on the correlation coefficient α, describing how a variation in the muon rate relates to a variation in the effective atmospheric temperature, are represented in this poster.

Authorship annotation

for the Daya Bay collaboration

Session and Location

Monday Session, Poster Wall #180 (Ballroom)

Poster included in proceedings:

no

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Track Classification: Poster (not participating in poster prize competition)