

Studies of $\omega(782) \rightarrow \pi^0 \gamma \rightarrow 3\gamma$ in p+p collisions at $\sqrt{s} = 7$ TeV with the ALICE electromagnetic calorimeters

ALICE electromagnetic calorimeters, PHOS (PHOTon Spectrometer) and EMCAL (ElectroMagnetic CALorimeter), have the capability to detect and identify photons over a large pT range. The measurement of vector meson $\omega(782)$ to $\pi^0 \gamma$ channel thanks to the calorimeters is interesting both as a test of pQCD and as a probe to explore the properties of hot-dense matter created in heavy-ion collisions. Two complementary analysis techniques are explored: one is only based on the three photon invariant mass, while the other takes profit of the cluster shower shapes to constrain the analysis. Here we show the expected pT reach with these techniques. Prospects on the measurement of $\pi^0 \gamma$ invariant mass studies in pp collisions at $\sqrt{s} = 7$ TeV will also be presented.

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Track Classification: Jets