



BELLE2-NOTE-PH-2018-038  
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**(To Be) Approved plot of  $\pi^0 \rightarrow \gamma\gamma$  and  $\eta \rightarrow \gamma\gamma$  in Early Phase 3  
Belle II data**

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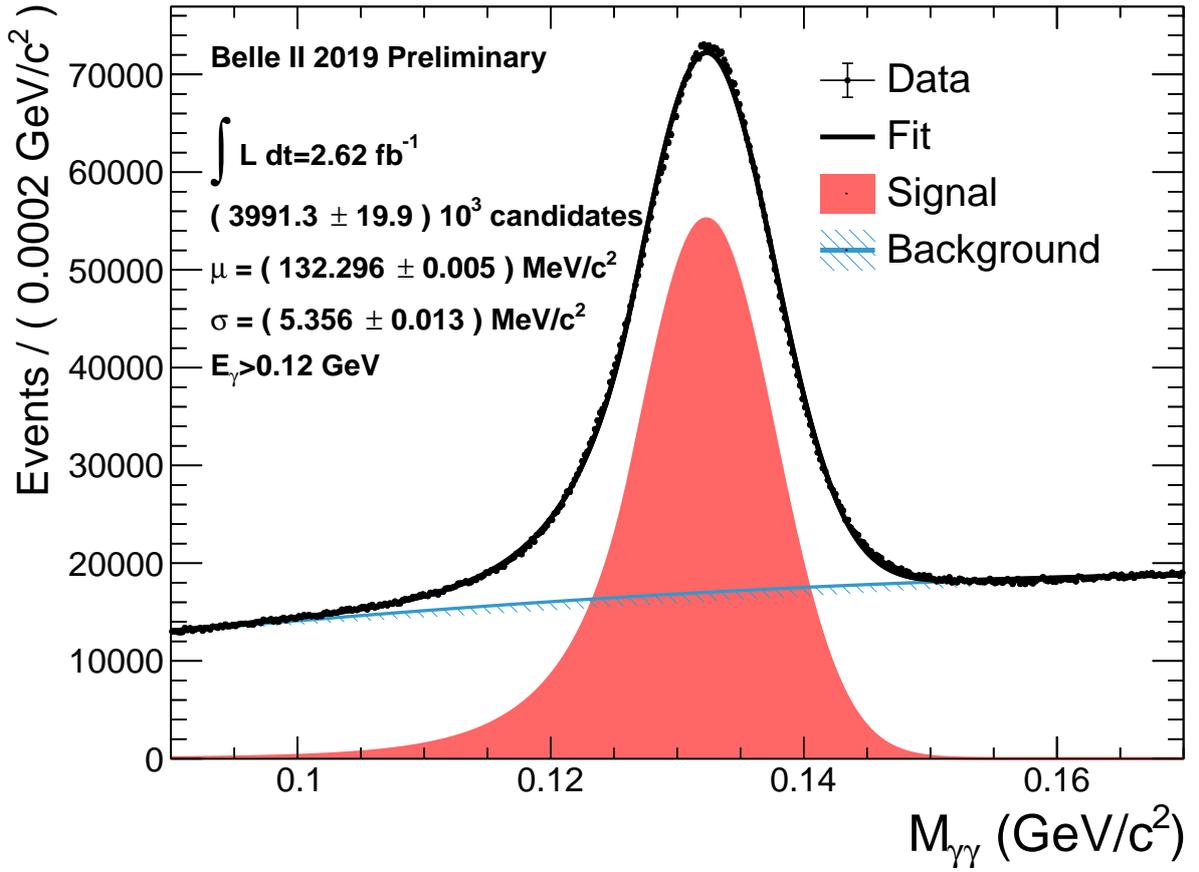


FIG. 1: Invariant mass of  $\gamma\gamma$  for data phase III. The functions superimposed are the result of a binned ML fit to the data using as signal a Crystal Ball plus a Gauss (with the same mean) and a first order polynomial for background. A clear peak for the decay  $\pi^0 \rightarrow \gamma\gamma$  is visible. Data corresponds to an integrated luminosity of  $2.62 \text{ fb}^{-1}$  (proc9 hadron skim). The selection criteria are  $E_{\gamma} > 120 \text{ MeV}$ ,  $E_9/E_{21} > 0.9$ ,  $N_{hits} > 1.5$ .

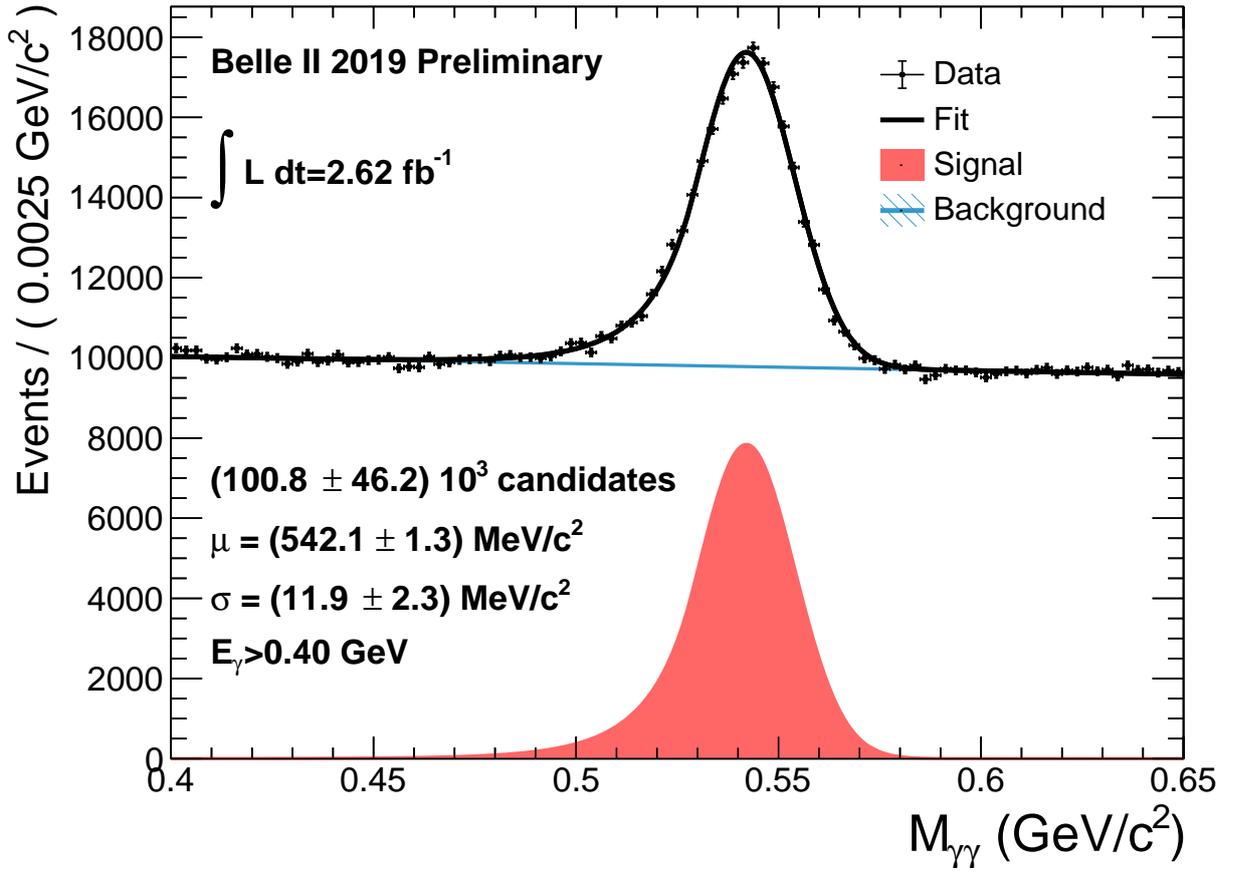


FIG. 2: Invariant mass of  $\gamma\gamma$  for data phase III with a Crystal Ball plus first order polynomial fit. A clear peak for the decay  $\eta \rightarrow \gamma\gamma$  is visible. Data corresponds to an integrated luminosity of  $2.62 \text{ fb}^{-1}$  (prod9 hadron skim). Selection criteria used are  $E_\gamma > 400 \text{ MeV}$ ,  $E_9/E_{21} > 0.9$ ,  $N_{hits} > 1.5$ .