

2
3
4
1



5
6
7
8
9

**Rediscovery of the $\Upsilon(4S) \rightarrow \eta h_b(1P)$ transition at Belle II:
approved plots**

U. Tamponi*

*Istituto Nazionale di Fisica Nucleare,
Sezione di Torino (INFN), Torino, Italy*

* tamponi@to.infn.it

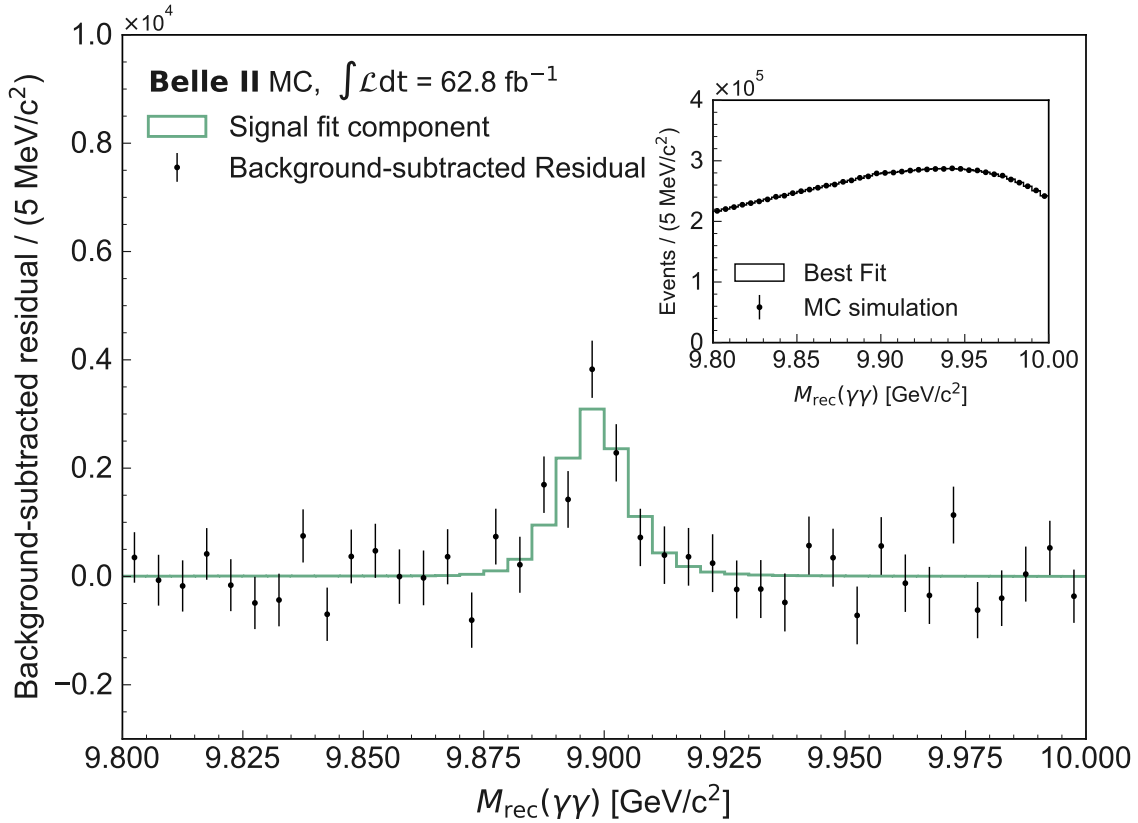


FIG. 1: Result of the fit of the MC sample when the expected number of $\Upsilon(4S) \rightarrow \eta h_b(1P)$, 12000, is included. The inset show the fitted distribution, while the main panel shows the residual after subtracting the background. The fit is performed using a MC-based template for the signal and a 4th order polynomial for the background. The fit is performed in 1 MeV/c² but presented in larger bins (5 MeV/c²) only for better display.

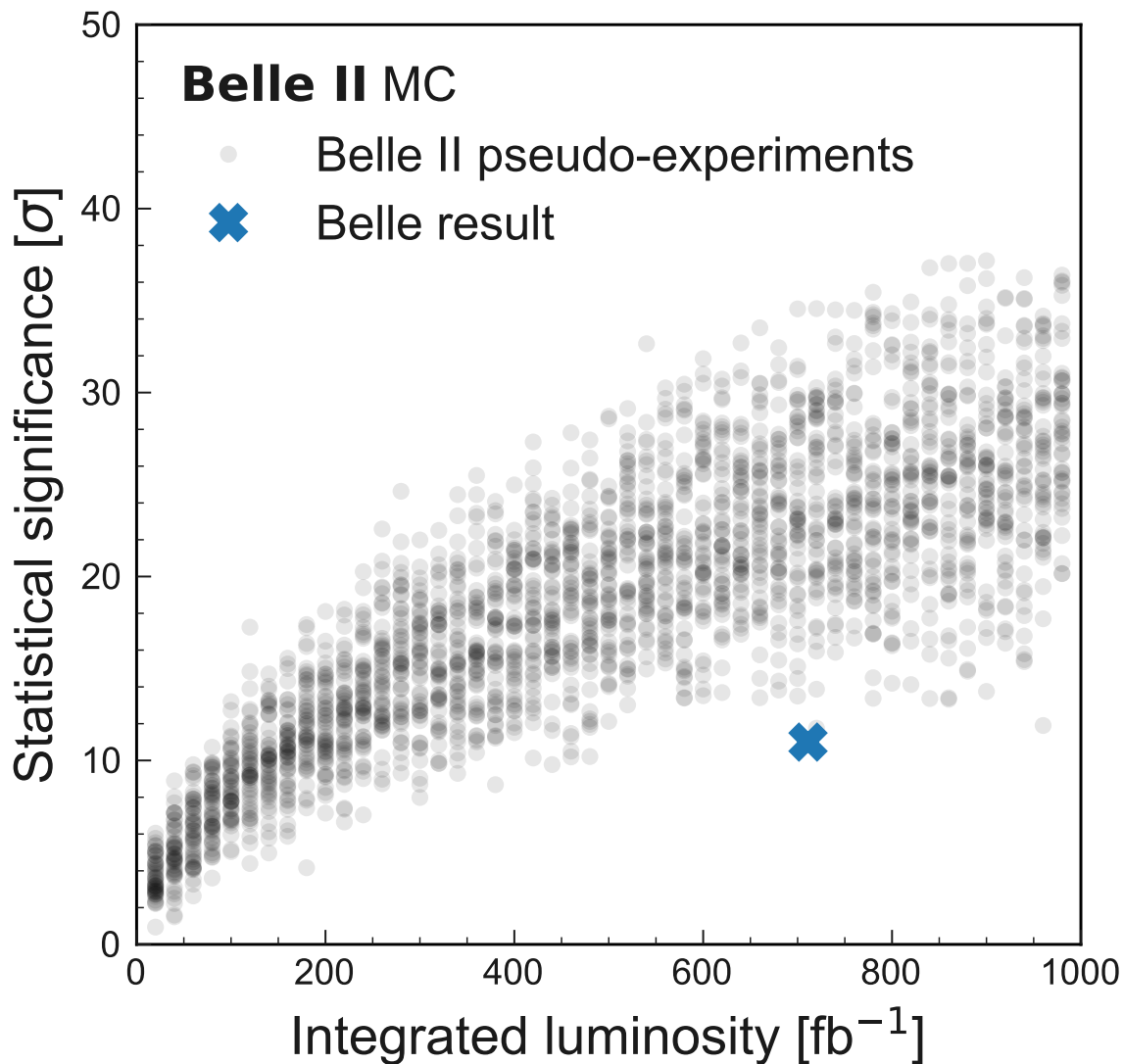


FIG. 2: Expected statistical significance of the $\Upsilon(4S) \rightarrow \eta h_b(1P)$ signal as function of the luminosity collected. Each point is the result of a the fit of a pseudo-experiment. The blue cross indicates the Belle result. The better result by Belle II is due to a more refined analysis, and shows that despite the increased background, Belle II can outperform Belle by means of more refined selections.