1 Supplementary material for LHCb-PAPER-2015-044
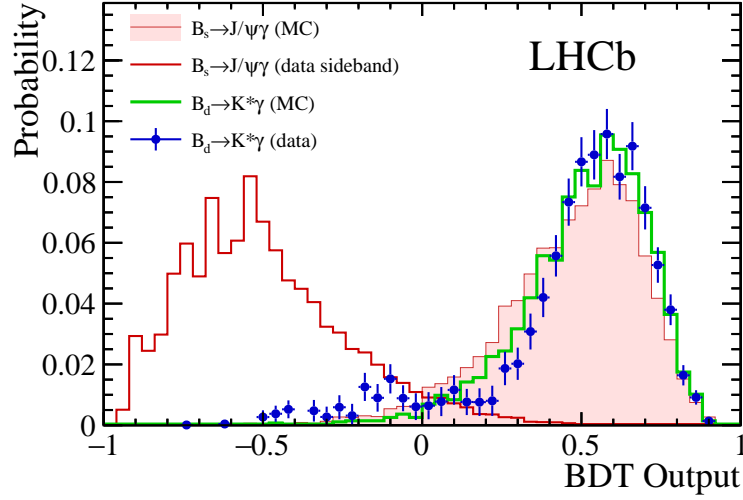

Figure 1: Output value of the selection BDT for $B_s^0 \to J/\psi\gamma$ simulated signal events (filled red), $B_s^0 \to J/\psi\gamma$ data candidates in the background region (red line), simulated $B^0 \to K^{*0}\gamma$ decays (green line) and $B^0 \to K^{*0}\gamma$ data events.
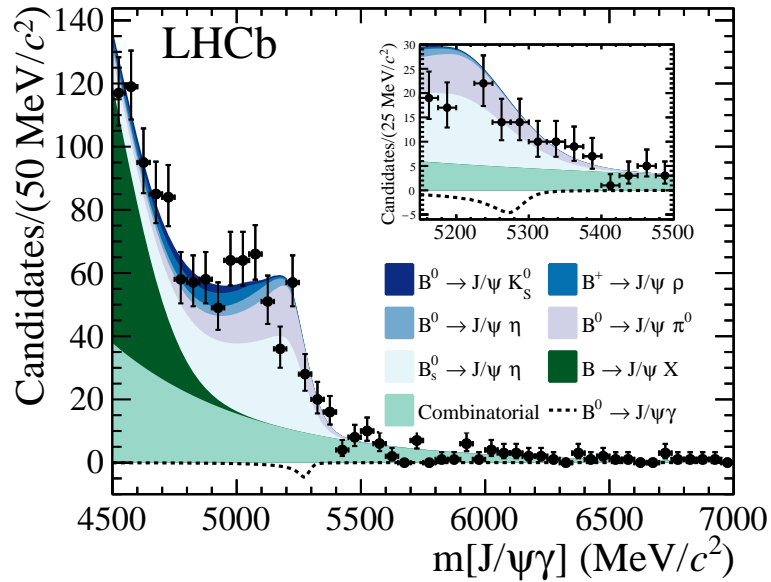

Figure 2: Mass distribution of signal candidates with the fit result overlaid, allowing for a $B^0 \to J/\psi\gamma$ signal.
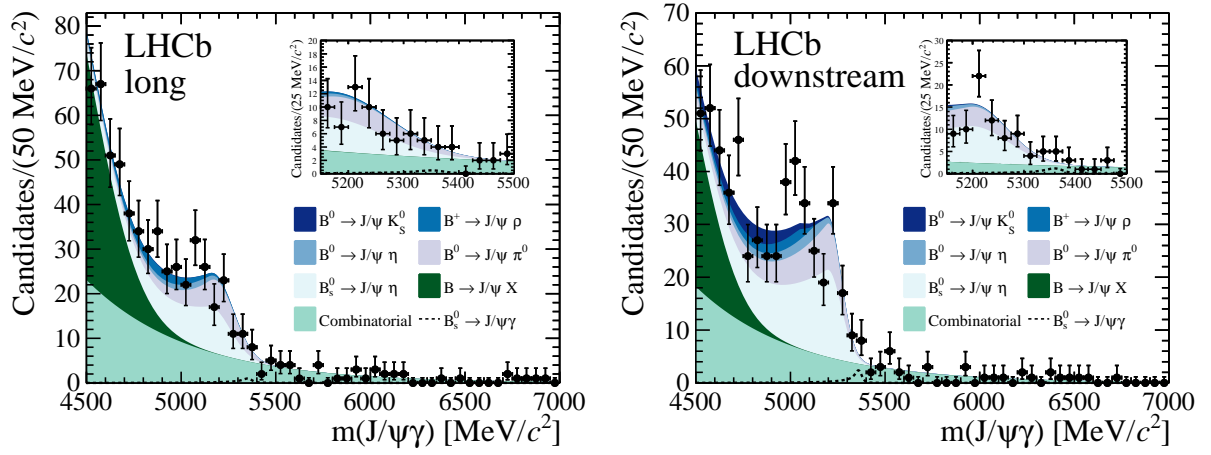
Figure 3: Mass fit to data for the two different converted photon reconstruction categories, *long* and *downstream*.