Supplementary material for LHCb-PAPER-2016-005

The stability of the fits is checked by splitting the data samples into groups of mutually independent subsamples. Figure 1 shows the result of the fit for the B^0 samples. The fit is again only done for the SME parameters, and not for the z parameter, due to the strong correlation between $\mathcal{R}e(z^{B^0})$ and $C_{J/\psi K_S^0}$ as explained in the main text. The divisions are made in

- Data taking periods (2011, 2012)

- Trigger selection with requirements on the B^0 decay time (exclusively biased, EB) and without such requirements (almost unbiased, AU)

- Pions from the K_S^0 decay that are reconstructed in the full tracking system (LL) and those that are reconstructed outside of the acceptance of the vertex detector (DD)

- Flavour tagging using opposite-side b-hadron decays (OS), using particles from the same side as the signal B^0 decay (SS), and using both tagging methods (BS).

Figure 2 shows the results of the fit for the B_s^0 samples. The divisions are made in data-taking periods (2011, 2012), polarity of the dipole magnet (up, down), even and odd event numbers, and a random split (1 and 2). All variations are compatible with statistical fluctuations.
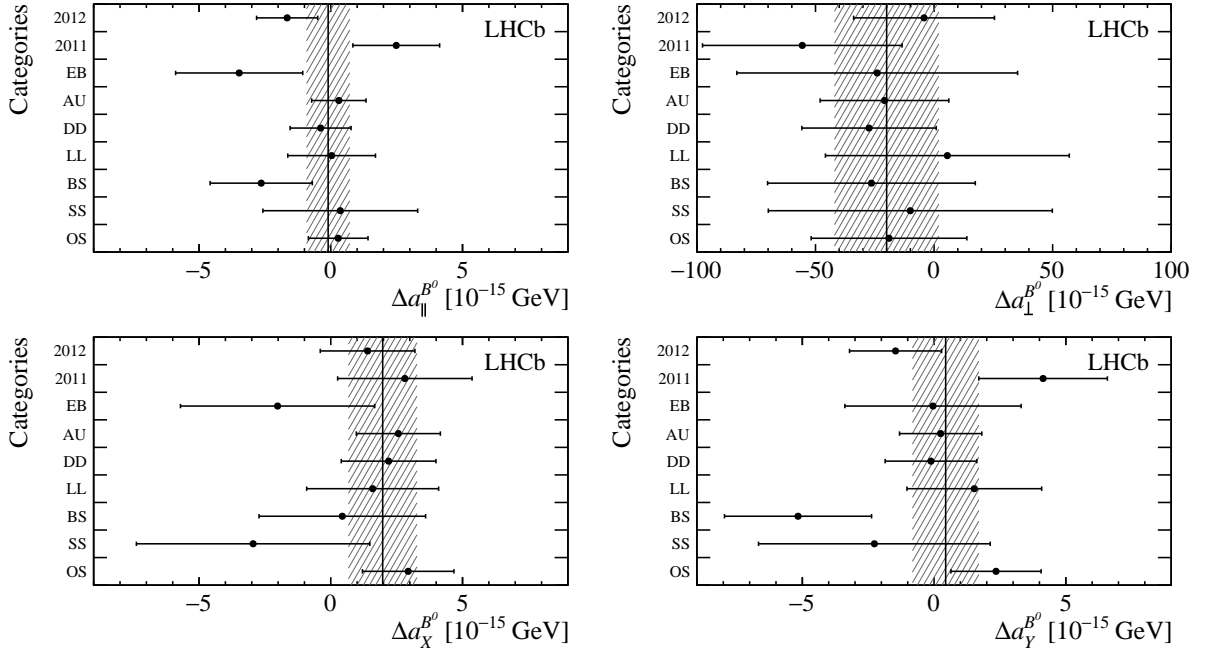

Figure 1: Fit results when splitting the B^0 sample into several different subsamples. The vertical bands indicate the fit result from the full sample. All uncertainties are statistical only. The abbreviations for the subsamples are explained in the text.
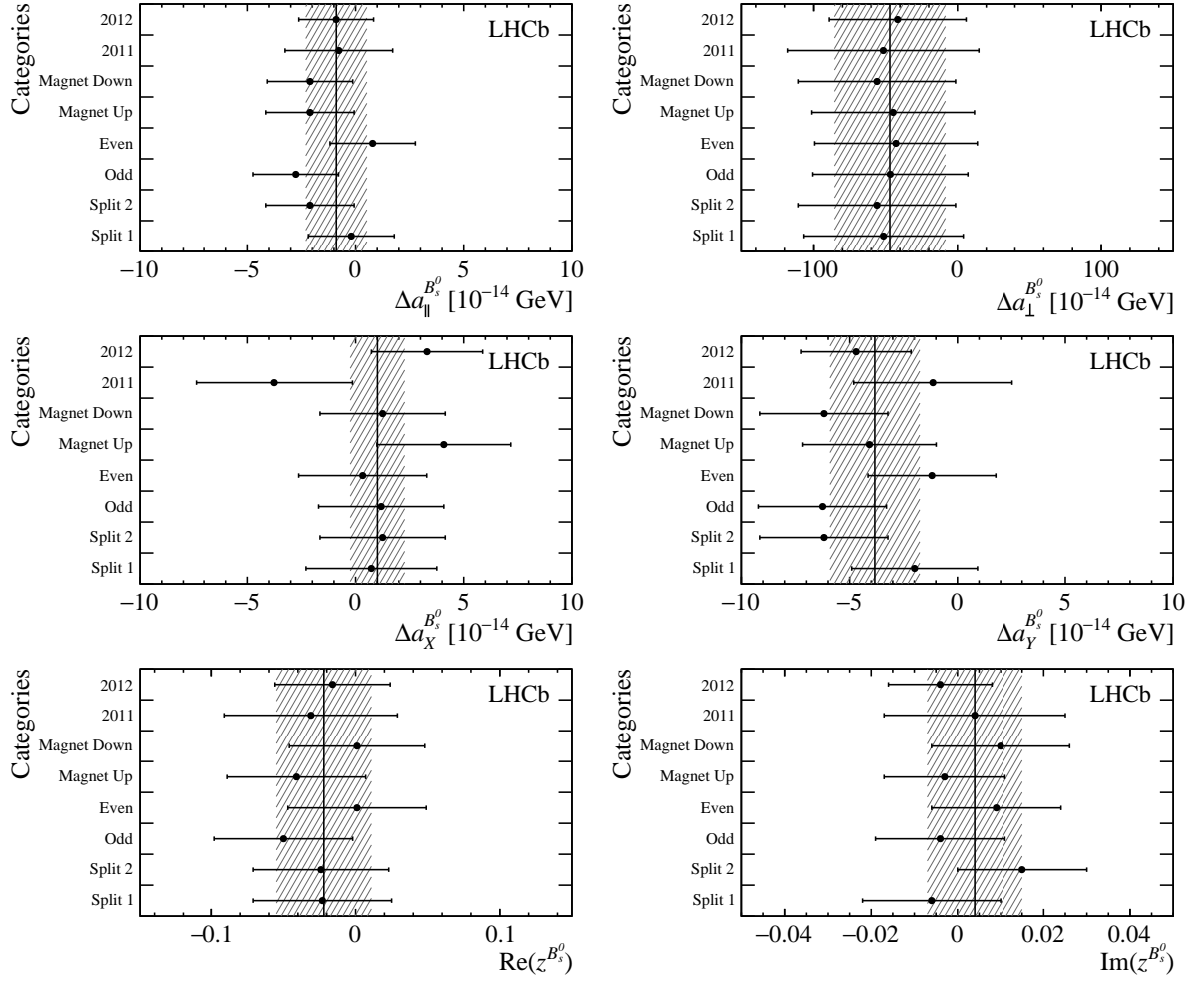
Figure 2: Fit results when splitting the B_s^0 sample into several different subsamples. The vertical bands indicate the fit result from the full sample. All uncertainties are statistical only. The abbreviations for the subsamples are explained in the text.