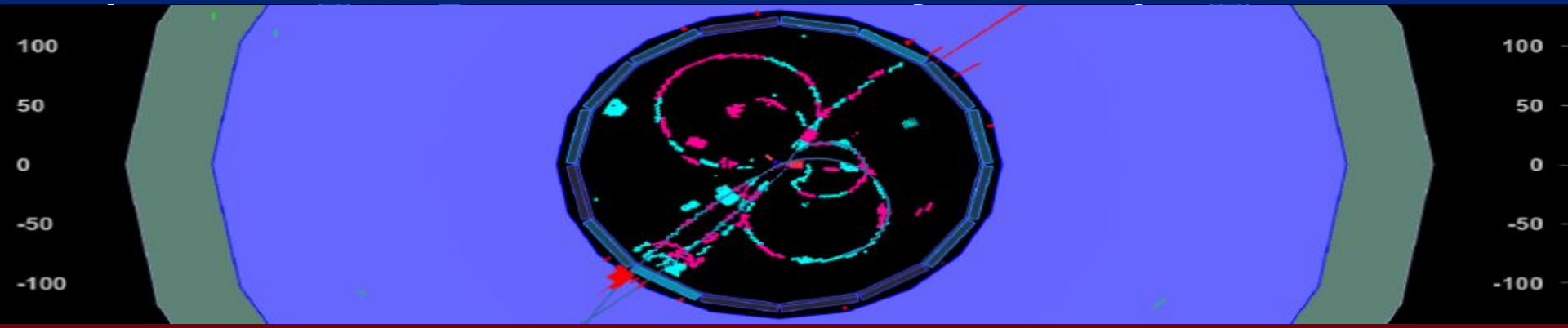
# Status of $\chi_d$ measurement with SL double tagged events

[b2n-2019-014@belle2.org, Note]




**BBAM** June 10, 2020

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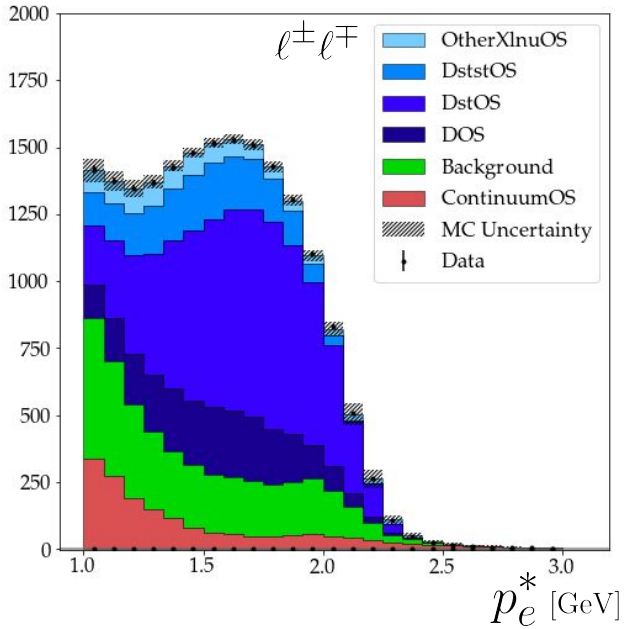
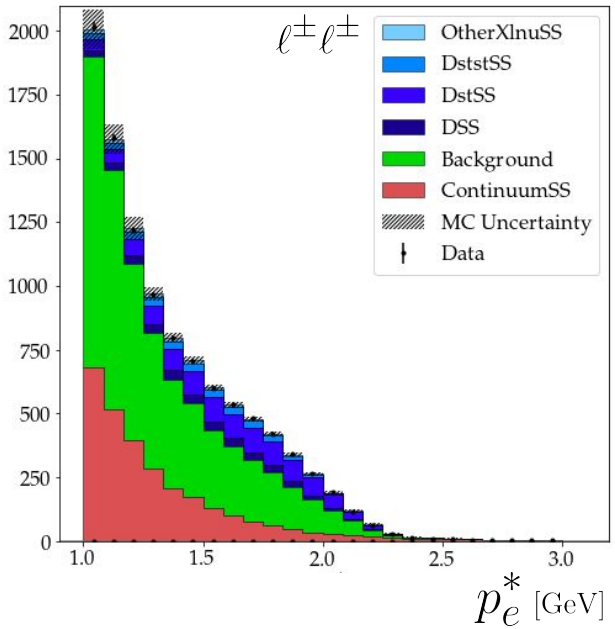
# Asimov Fit to determine exp. sensitivity

| OS spectrum | MC expectation | Fit result |
|---|---|---|
| Signal yield | 12525.6 ∓ 33.2 | 12525.6 ∓ 504.2 |
| Background yield | 4338.6 ∓ 24.6 | 4338.6 ∓ 775.9 |
| Continuum yield | 1199.2 ∓ 15.6 | 1199.2 ∓ 376.1 |

| SS spectrum | MC expectation | Fit result |
|---|---|---|
| Signal yield | 1599.2 ∓ 11.8 | 1599.2 ∓ 374.6 |
| Background yield | 6302.4 ∓ 30.1 | 6302.4 ∓ 1053.1 |
| Continuum yield | 1957.2 ∓ 20.3 | 1957.2 ∓ 755.9 |

$$\chi_{\mathrm{MC}} = 0.0850 \pm 0.0006$$
$$\chi_{\mathrm{fit}} = 0.0850 \pm 0.0184$$



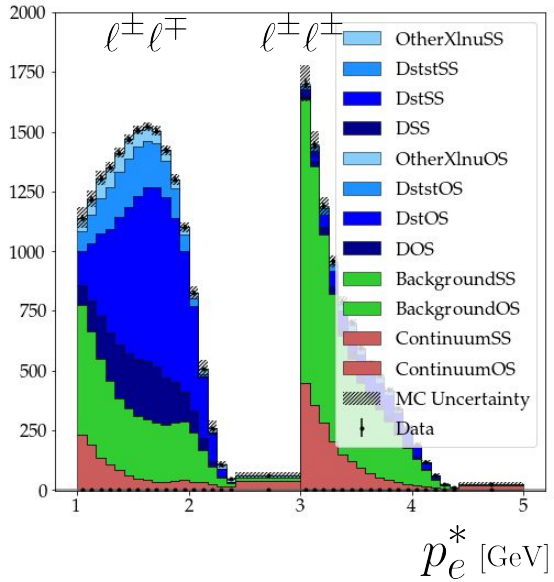
# Asimov Fit to determine exp. sensitivity

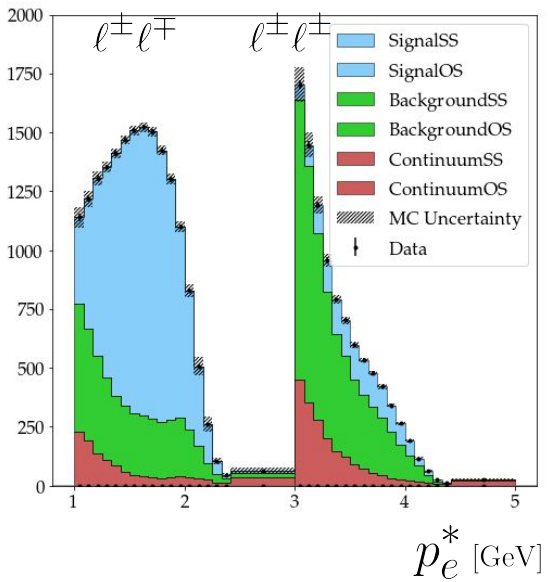
| OS spectrum | Ind. fit result | Simul. Fit result |
|---|---|---|
| Signal yield | 12525.6 ∓ 504.2 | 12525.6 ∓ 491.9 |
| Background yield | 4338.6 ∓ 775.9 | 4338.6 ∓ 763.8 |
| Continuum yield | 1199.2 ∓ 376.1 | 1199.2 ∓ 372.5 |

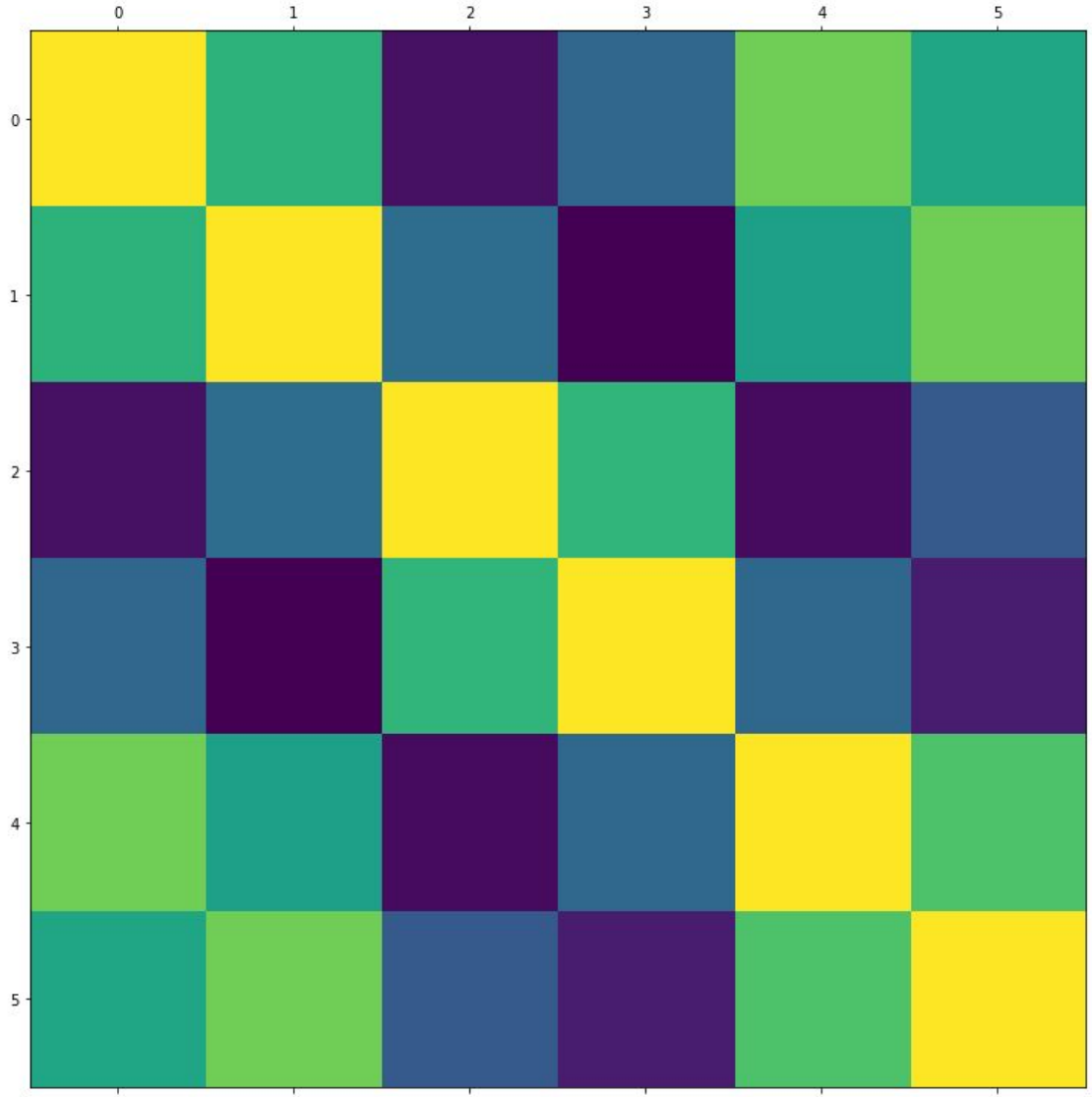
| SS spectrum | Ind. expectation | Simul. Fit result |
|---|---|---|
| Signal yield | 1599.2 ∓ 374.6 | 1599.2 ∓ 310.2 |
| Background yield | 6302.4 ∓ 1053.1 | 6302.4 ∓ 831.3 |
| Continuum yield | 1957.2 ∓ 755.9 | 1957.2 ∓ 610.6 |

$$\chi_{\text{fit}} = 0.0850 \pm 0.0184$$

$$\chi_{\text{simul. fit}} = 0.0850 \pm 0.0154$$




0
1
2
3
4
5
0
1
2
3
4
5

# Backup