

R value measurement at 3.85 – 4.59 GeV at BESIII

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Abstract

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11 I. BACKGROUND STUDY

12 A. Estimation of Beam-associated Background

TABLE I. The beam-associated backgrounds at 3.85 – 4.59 GeV.

$\sqrt{s}$ (GeV)	$N_{\text{bkg.}}^{\text{Beam.}}$	Ratio (%)
3.850	1545	1.20
3.890	1541	1.20
3.895	1484	1.16
3.900	1468	1.14
3.905	1492	1.13
3.910	1526	1.20
3.915	1537	1.17
3.920	1429	1.17
3.925	1403	1.17
3.930	1402	1.16
3.935	1478	1.14
3.940	1448	1.10
3.945	1682	1.21
3.950	1669	1.17
3.955	1704	1.14
3.960	1854	1.17
3.965	1699	1.16
3.970	1513	1.10
3.975	1806	1.19
3.980	1623	1.08
3.985	1728	1.14
3.990	1694	1.10
3.995	1715	1.11
4.000	1755	1.16
4.005	1768	1.17
4.010	1682	1.16
4.012	1673	1.19
4.014	1549	1.12
4.016	1539	1.11
4.018	1692	1.13
4.020	1739	1.17
4.025	1871	1.19
4.030	4822	1.19
4.035	1843	1.11
4.040	1775	1.11

TABLE II. The beam-associated backgrounds at 3.85 – 4.59 GeV.

$\sqrt{s}$ (GeV)	$N_{\text{bkg.}}^{\text{Beam.}}$	Ratio (%)
4.050	1774	1.15
4.055	1814	1.13
4.060	1699	1.17
4.065	1898	1.18
4.070	1958	1.19
4.080	2016	1.17
4.090	1965	1.16
4.100	1865	1.15
4.110	1904	1.20
4.120	2015	1.18
4.130	1897	1.19
4.140	1905	1.17
4.145	2039	1.18
4.150	2083	1.23
4.160	2195	1.26
4.170	4769	1.20
4.180	2044	1.28
4.190	2019	1.25
4.195	1939	1.22
4.200	1874	1.17
4.203	1688	1.19
4.206	1854	1.18
4.210	1865	1.19
4.215	1878	1.21
4.220	1823	1.19
4.225	1839	1.21
4.230	1762	1.19
4.235	1686	1.15
4.240	1857	1.26
4.243	1782	1.22
4.245	1769	1.22
4.248	1726	1.19
4.250	1682	1.15
4.255	1696	1.17
4.260	1804	1.21

TABLE III. The beam-associated backgrounds at 3.85 – 4.59 GeV.

$\sqrt{s}$ (GeV)	$N_{\text{bkg.}}^{\text{Beam.}}$	Ratio (%)
4.265	1735	1.21
4.270	1742	1.22
4.275	1717	1.20
4.280	1684	1.16
4.285	1728	1.21
4.290	1828	1.21
4.300	1681	1.19
4.310	1764	1.16
4.320	1897	1.19
4.330	1833	1.23
4.340	1863	1.22
4.350	1902	1.26
4.360	1865	1.27
4.370	1958	1.24
4.380	1896	1.22
4.390	1722	1.20
4.395	1737	1.16
4.400	1606	1.15
4.410	1577	1.14
4.420	1781	1.19
4.425	1744	1.19
4.430	1648	1.22
4.440	1768	1.18
4.450	1697	1.14
4.460	1895	1.14
4.480	1848	1.23
4.500	1795	1.26
4.520	1995	1.31
4.540	2092	1.29
4.550	2017	1.34
4.560	1886	1.33
4.570	2014	1.41
4.580	2079	1.43
4.590	2042	1.46

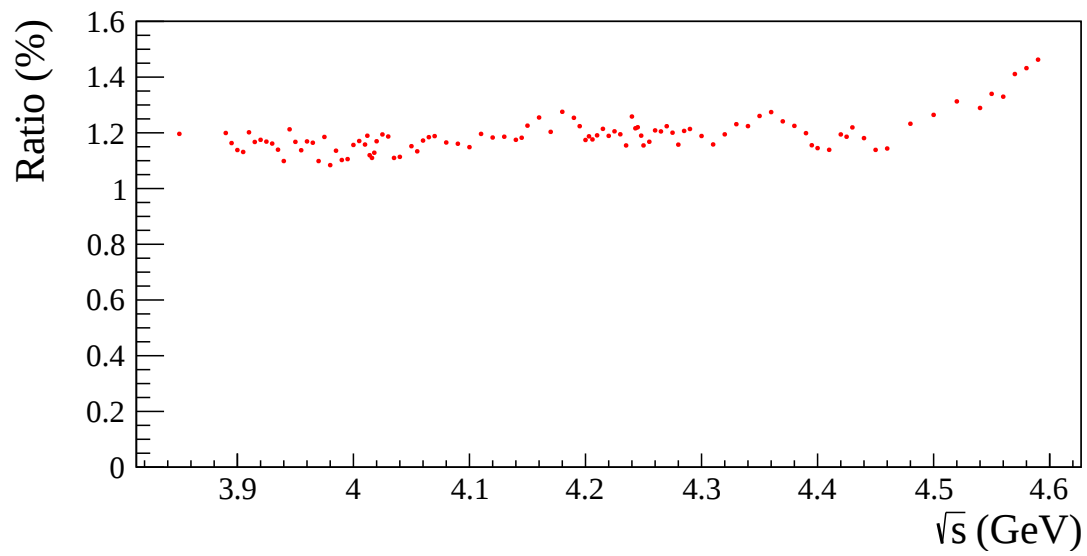


FIG. 1. The ratios of Beam-associated background over the hadronic yields at 3.85 – 4.59 GeV.