

Discussion on luminosity measurement

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Comparison between different processes(boss665p01)

E_{cm} (GeV)	$e^+e^- \rightarrow e^+e^-$	$e^+e^- \rightarrow \gamma\gamma$	δ (%)
2.0000	10.054	10.134	-0.8
2.0500	3.337	3.350	-0.4
2.1000	12.183	12.137	0.4
2.1500	2.840	2.854	-0.5
2.1750	10.552	10.561	-0.1
2.2000	13.707	13.602	-0.9
2.2324	11.877	11.836	0.3
2.3094	20.782	20.745	0.2
2.3864	22.584	22.537	0.2
2.3960	66.903	66.854	0.1
2.5000	1.096	1.095	0.1
2.6444	33.634	33.425	0.6
2.6464	34.047	33.911	0.4
2.7000	1.033	1.020	1.3
2.8000	1.008	1.001	0.7
2.9000	105.458	105.240	0.2
2.9500	15.905	15.906	0.0
2.9810	16.139	16.011	0.8
3.0000	15.932	15.773	1.0
3.0200	17.306	17.203	0.6
3.0800	120.558	119.081	1.2

Comparison between different boss version

$e^+e^- \rightarrow e^+e^-$

Ecm (GeV)	665p01	665	δ (%)
2.0000	10.054	10.052	~0
2.0500	3.337	3.356	-0.6
2.1000	12.183	12.096	0.7
2.1500	2.840	2.839	~0
2.1750	10.552	10.625	-0.7
2.2000	13.707	13.657	0.4
2.2324	11.877	11.936	-0.5
2.3094	20.782	21.035	-1.2
2.3864	22.584	22.693	-0.5
2.3960	66.903	67.022	-0.2
2.5000	1.096	1.100	-0.4
2.6440	33.634	33.730	-0.3
2.6464	34.047	34.000	0.1
2.7000	1.033	1.036	-0.3
2.8000	1.008	1.004	0.4
2.9000	105.458	105.225	0.2
2.9500	15.905	16.025	-0.8
2.9810	16.139	16.059	0.5
3.0000	15.932	15.877	0.3
3.0200	17.306	17.333	-0.2
3.0800	120.558	119.398	1.0

Comparison between different boss version

$$e+e-\rightarrow\gamma\gamma$$

Ecm (GeV)	(665p01)	(665)	δ (%)
2.0000	10.134	10.141	-0.07
2.0500	3.350	3.358	-0.3
2.1000	12.137	12.154	-0.2
2.1500	2.854	2.853	0.04
2.1750	10.561	10.654	-0.9
2.2000	13.602	13.625	-0.2
2.2324	11.836	11.873	-0.3
2.3094	20.745	21.042	-1.4
2.3864	22.537	22.524	0.06
2.3960	66.854	66.827	0.04
2.5000	1.095	1.095	~ 0
2.6440	33.425	33.449	-0.07
2.6464	33.911	33.883	0.09
2.7000	1.020	1.019	0.1
2.8000	1.001	1.001	0
2.9000	105.240	105.104	0.13
2.9500	15.906	15.914	-0.05
2.9810	16.011	15.993	0.11
3.0000	15.773	15.756	0.11
3.0200	17.203	17.206	-0.02
3.0800	119.081	119.102	-0.02

After Ecm Calibration BOSS665p01

Ecm comparison

Ecm(GeV)	Ecm(GeV) after calibration
2.0000	2.0043
2.0500	2.0536
2.1000	2.1041
2.1500	2.1543
2.1750	2.1783
2.2000	2.2041
2.2324	2.2360
2.3094	2.3128
2.3864	2.3909
2.3960	2.4003
2.5000	2.5034
2.6440	2.6475
2.6464	2.6499
2.7000	2.7021
2.8000	2.8014
2.9000	2.9028
2.9500	2.9517
2.9810	2.9822
3.0000	3.0012
3.0200	3.0211
3.0800	3.0817

Cross Section Comparison (BhaBha)

Ecm(GeV)	after calib.	Before calib.	Delta(%)
2.0000	1832.3191	1839.3734	-0.3850
2.0500	1745.1760	1752.2156	-0.4034
2.1000	1663.6541	1669.9600	-0.3790
2.1500	1587.7852	1593.5003	-0.3599
2.1750	1552.3990	1556.6886	-0.2763
2.2000	1516.0603	1521.1732	-0.3372
2.2324	1473.1963	1477.7414	-0.3085
2.3094	1378.7752	1381.8735	-0.2247
2.3864	1290.6766	1294.8630	-0.3244
2.3960	1280.0352	1284.1437	-0.3210
2.5000	1177.4815	1180.9662	-0.2959
2.6444	1052.5854	1055.3634	-0.2639
2.6464	1050.9275	1053.8090	-0.2742
2.7000	1011.1041	1012.5493	-0.1429
2.8000	939.7381	941.1408	-0.1493
2.9000	876.9538	878.1372	-0.1349
2.9500	847.4408	848.5653	-0.1327
2.9810	830.6522	831.2466	-0.0716
3.0000	819.7053	820.8246	-0.1365
3.0200	809.0585	810.1519	-0.1351
3.0800	777.5014	778.5437	-0.1341

Efficiency Comparison (BhaBha)

Ecm(GeV)	After calib.	Before calib.	Delta(%)
2.0000	0.1949	0.1952	-0.1077
2.0500	0.1945	0.1945	0.0082
2.1000	0.1939	0.1936	0.1465
2.1500	0.1935	0.1941	-0.3070
2.1750	0.1946	0.1943	0.1521
2.2000	0.1942	0.1934	0.4345
2.2324	0.1936	0.1937	-0.0827
2.3094	0.1927	0.1936	-0.4941
2.3864	0.1930	0.1939	-0.4154
2.3960	0.1940	0.1935	0.2505
2.5000	0.1944	0.1942	0.0659
2.6444	0.1948	0.1941	0.3870
2.6464	0.1945	0.1944	0.0463
2.7000	0.1946	0.1943	0.1747
2.8000	0.1940	0.1939	0.0443
2.9000	0.1954	0.1947	0.3715
2.9500	0.1945	0.1956	-0.5367
2.9810	0.1947	0.1935	0.5958
3.0000	0.1950	0.1937	0.6922
3.0200	0.1946	0.1946	-0.0134
3.0800	0.1934	0.1941	-0.3257

Cross Section Comparison (Di-gamma)

Ecm(GeV)	after calib.	Before calib.	Delta(%)
2.0000	87.1175	87.3640	-0.2829
2.0500	82.9406	83.1687	-0.2749
2.1000	79.1117	79.3219	-0.2657
2.1500	75.5237	75.6714	-0.1955
2.1750	73.8915	73.9649	-0.0992
2.2000	72.1826	72.3424	-0.2214
2.2324	70.1123	70.2586	-0.2087
2.3094	65.6335	65.6706	-0.0565
2.3864	61.4733	61.5381	-0.1053
2.3960	60.9683	61.0577	-0.1466
2.5000	55.9982	56.1030	-0.1872
2.6444	50.1206	50.1922	-0.1429
2.6464	50.0488	50.1177	-0.1378
2.7000	48.1624	48.1672	-0.0099
2.8000	44.7961	44.8056	-0.0213
2.9000	41.7800	41.7707	0.0223
2.9500	40.3308	40.3414	-0.0263
2.9810	39.5241	39.5161	0.0203
3.0000	38.9900	39.0194	-0.0754
3.0200	38.4727	38.5060	-0.0866
3.0800	37.0046	37.0247	-0.0543

Efficiency Comparison (Di-gamma)

Ecm(GeV)	after calib.	Before calib	delta(%)
2.0000	0.4639	0.4641	-0.0431
2.0500	0.4643	0.4646	-0.0646
2.1000	0.4643	0.4635	0.1723
2.1500	0.4630	0.4632	-0.0432
2.1750	0.4633	0.4649	-0.3453
2.2000	0.4648	0.4646	0.0430
2.2324	0.4637	0.4633	0.0863
2.3094	0.4634	0.4626	0.1726
2.3864	0.4623	0.4635	-0.2596
2.3960	0.4624	0.4612	0.2595
2.5000	0.4632	0.4635	-0.0648
2.6444	0.4611	0.4635	-0.5205
2.6464	0.4618	0.4631	-0.2815
2.7000	0.4631	0.4614	0.3671
2.8000	0.4626	0.4618	0.1729
2.9000	0.4634	0.4618	0.3453
2.9500	0.4605	0.4622	-0.3692
2.9810	0.4611	0.4616	-0.1084
3.0000	0.4617	0.4618	-0.0217
3.0200	0.4625	0.4620	0.1081
3.0800	0.4617	0.4623	-0.1300

discuss

- Ecm determination (after calibration)
- cross section determination
- MC production (re-generated)

Run number with errors

39840	150120	41377	150401
40171	150201	41378	150401
41164	150321	41379	150401
41341	150331	41380	150401
41342	150331	41382	150401
41343	150331	41384	150401
41344	150331	41385	150401
41346	150331	41387	150401
41348	150331	41389	150401
41349	150331	41391	150401
41352	150331	41392	150402
41354	150331	41393	150402
41355	150331	41395	150402
41356	150331	41396	150402
41357	150331	41398	150402
41359	150331	41404	150402
41360	150331	41406	150402
41361	150331	41417	150403
41362	150331	41427	150404
41367	150401	41430	150404
41371	150401	41434	150404
41372	150401	41435	150404
41373	150401	41449	150405
		41469	150406