

Table 1: Data fake rates for Cut-Based e-veto

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0901924	0.0216763	0.0216690	0.0039134	0.0030253
Loose Cra	0.0378134	0.0120127	0.0111308	0.0099463	0.0037271
Loose End	0.5830601	0.0267249	0.0290787	0.0075998	0.0007415
Loose (TOL) Bar	0.0693988	0.0230757	0.0230632	0.0037630	0.0032143
Loose (TOL) Cra	0.0320869	0.0115059	0.0108052	0.0097613	0.0038283
Loose (TOL) End	0.1451365	0.0221260	0.0230893	0.0065227	0.0030268
Loose (MOL) Bar	0.0239982	0.0077021	0.0077072	0.0033950	0.0033842
Loose (MOL) Cra	0.0088196	0.0103899	0.0098460	0.0084557	0.0037291
Loose (MOL) End	0.0855712	0.0088476	0.0097164	0.0058143	0.0024264
Medium Bar	0.0272091	0.0077938	0.0078064	0.0034175	0.0032911
Medium Cra	0.0192285	0.0112116	0.0108256	0.0095457	0.0041380
Medium End	0.0666744	0.0089143	0.0093464	0.0055377	0.0015748
Medium (TOL) Bar	0.0208545	0.0078861	0.0078890	0.0033547	0.0033649
Medium (TOL) Cra	0.0161438	0.0111314	0.0105409	0.0094335	0.0041937
Medium (TOL) End	0.0406411	0.0101213	0.0102070	0.0051806	0.0026414
Medium (MOL) Bar	0.0157873	0.0076247	0.0076419	0.0033028	0.0033714
Medium (MOL) Cra	0.0063875	0.0109090	0.0101604	0.0086432	0.0039976
Medium (MOL) End	0.0262085	0.0090054	0.0088843	0.0049436	0.0032604
Tight Bar	0.0104921	0.0070600	0.0070722	0.0031053	0.0031539
Tight Cra	0.0064762	0.0102115	0.0095607	0.0083677	0.0039089
Tight End	0.0497735	0.0079974	0.0082345	0.0052941	0.0009786
Tight (TOL) Bar	0.0099914	0.0070638	0.0070770	0.0031020	0.0031124
Tight (TOL) Cra	0.0064827	0.0102131	0.0095611	0.0083704	0.0039024
Tight (TOL) End	0.0272084	0.0087900	0.0087580	0.0049892	0.0015443
Tight (MOL) Bar	0.0076043	0.0071919	0.0072094	0.0030766	0.0029691
Tight (MOL) Cra	0.0029166	0.0104989	0.0096074	0.0080970	0.0035741
Tight (MOL) End	0.0205535	0.0085539	0.0084900	0.0048673	0.0028784

Table 2: Data fake rates for BDT-Based e-veto

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0291844	0.0130855	0.0130900	0.0037918	0.0068736
Loose Cra	0.0183691	0.0116677	0.0114134	0.0096595	0.0054301
Loose End	0.0719750	0.0155699	0.0157941	0.0060392	0.0064042
Loose (TOL) Bar	0.0272211	0.0130087	0.0130104	0.0037774	0.0068940
Loose (TOL) Cra	0.0179149	0.0116087	0.0113596	0.0096503	0.0054516
Loose (TOL) End	0.0462828	0.0145975	0.0145879	0.0057670	0.0066181
Loose (MOL) Bar	0.0182067	0.0129449	0.0129537	0.0037258	0.0065098
Loose (MOL) Cra	0.0099312	0.0110727	0.0106674	0.0090142	0.0043483
Loose (MOL) End	0.0268029	0.0144723	0.0142824	0.0055562	0.0065543
Medium Bar	0.0133495	0.0120791	0.0120725	0.0036121	0.0059447
Medium Cra	0.0035584	0.0104790	0.0099558	0.0085626	0.0046631
Medium End	0.0178172	0.0134024	0.0133464	0.0053773	0.0055124
Medium (TOL) Bar	0.0127501	0.0120705	0.0120636	0.0036080	0.0059567
Medium (TOL) Cra	0.0035584	0.0104790	0.0099558	0.0085626	0.0046631
Medium (TOL) End	0.0145255	0.0129484	0.0128971	0.0053363	0.0055297
Medium (MOL) Bar	0.0110126	0.0124670	0.0124661	0.0036443	0.0053897
Medium (MOL) Cra	0.0042005	0.0102581	0.0094769	0.0082214	0.0040210
Medium (MOL) End	0.0129695	0.0134881	0.0133921	0.0055484	0.0045277
Tight Bar	0.0082679	0.0108244	0.0108107	0.0035036	0.0047907
Tight Cra	0.0015071	0.0096717	0.0090635	0.0079247	0.0036855
Tight End	0.0079360	0.0101691	0.0100490	0.0051845	0.0043428
Tight (TOL) Bar	0.0078837	0.0108593	0.0108428	0.0034983	0.0048134
Tight (TOL) Cra	0.0015071	0.0096717	0.0090635	0.0079247	0.0036855
Tight (TOL) End	0.0073989	0.0102704	0.0101598	0.0051728	0.0043682
Tight (MOL) Bar	0.0070932	0.0113653	0.0113537	0.0035390	0.0044291
Tight (MOL) Cra	0.0020329	0.0095741	0.0085980	0.0074456	0.0031596
Tight (MOL) End	0.0069591	0.0110789	0.0109340	0.0055296	0.0036824