

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0908046	0.0218332	0.0218181	0.0038634	0.0024527
Loose Cra	0.0370179	0.0116606	0.0110095	0.0100241	0.0036361
Loose End	0.5783579	0.0270189	0.0298679	0.0074978	0.0007194
Loose (TOL) Bar	0.0700724	0.0233023	0.0232826	0.0037073	0.0025950
Loose (TOL) Cra	0.0311741	0.0114256	0.0107778	0.0098300	0.0037353
Loose (TOL) End	0.1437707	0.0221903	0.0231719	0.0065692	0.0022597
Loose (MOL) Bar	0.0242704	0.0069737	0.0069651	0.0033214	0.0026726
Loose (MOL) Cra	0.0077564	0.0102391	0.0097592	0.0085466	0.0037327
Loose (MOL) End	0.0853638	0.0077183	0.0086689	0.0058076	0.0016805
Medium Bar	0.0276564	0.0071424	0.0071395	0.0033458	0.0025792
Medium Cra	0.0185106	0.0109275	0.0107027	0.0096354	0.0040258
Medium End	0.0656289	0.0076616	0.0081629	0.0055737	0.0006905
Medium (TOL) Bar	0.0212432	0.0072717	0.0072522	0.0032780	0.0026392
Medium (TOL) Cra	0.0153600	0.0108973	0.0105120	0.0095155	0.0040832
Medium (TOL) End	0.0405852	0.0087353	0.0088906	0.0052193	0.0016084
Medium (MOL) Bar	0.0162426	0.0069640	0.0069604	0.0032287	0.0026315
Medium (MOL) Cra	0.0053120	0.0105627	0.0100650	0.0087493	0.0039678
Medium (MOL) End	0.0261497	0.0073833	0.0073321	0.0049789	0.0023337
Tight Bar	0.0107682	0.0063874	0.0063906	0.0030232	0.0024946
Tight Cra	0.0054398	0.0098904	0.0094699	0.0084880	0.0038399
Tight End	0.0482620	0.0068064	0.0072378	0.0053169	0.0002022
Tight (TOL) Bar	0.0102534	0.0064214	0.0064254	0.0030191	0.0024529
Tight (TOL) Cra	0.0054447	0.0098923	0.0094712	0.0084914	0.0038350
Tight (TOL) End	0.0268350	0.0073882	0.0075299	0.0050190	0.0005856
Tight (MOL) Bar	0.0079137	0.0065039	0.0065105	0.0029944	0.0022885
Tight (MOL) Cra	0.0016063	0.0099903	0.0094232	0.0081939	0.0036963
Tight (MOL) End	0.0203428	0.0070198	0.0070137	0.0049023	0.0020825

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0292527	0.0106257	0.0106487	0.0036245	0.0048783
Loose Cra	0.0165256	0.0114764	0.0111733	0.0094866	0.0051271
Loose End	0.0679001	0.0135522	0.0139360	0.0059381	0.0051151
Loose (TOL) Bar	0.0273368	0.0105147	0.0105363	0.0036088	0.0048929
Loose (TOL) Cra	0.0160633	0.0113950	0.0111097	0.0094758	0.0051474
Loose (TOL) End	0.0427696	0.0126184	0.0126157	0.0056454	0.0054821
Loose (MOL) Bar	0.0183279	0.0102741	0.0103087	0.0035542	0.0044879
Loose (MOL) Cra	0.0090583	0.0106730	0.0103962	0.0089098	0.0041984
Loose (MOL) End	0.0240002	0.0122005	0.0120315	0.0054260	0.0056523
Medium Bar	0.0133667	0.0098166	0.0098199	0.0034516	0.0041162
Medium Cra	0.0028860	0.0100453	0.0097993	0.0084583	0.0046261
Medium End	0.0161007	0.0113081	0.0112695	0.0052475	0.0045178
Medium (TOL) Bar	0.0127525	0.0097869	0.0097914	0.0034469	0.0041275
Medium (TOL) Cra	0.0028860	0.0100453	0.0097993	0.0084583	0.0046261
Medium (TOL) End	0.0129510	0.0109182	0.0108606	0.0051992	0.0045854
Medium (MOL) Bar	0.0110515	0.0101002	0.0101148	0.0034804	0.0035562
Medium (MOL) Cra	0.0032778	0.0097505	0.0093902	0.0081498	0.0042343
Medium (MOL) End	0.0112214	0.0112548	0.0111387	0.0053689	0.0038705
Tight Bar	0.0087846	0.0089337	0.0089350	0.0033581	0.0031798
Tight Cra	0.0007756	0.0091284	0.0088383	0.0078626	0.0036433
Tight End	0.0071675	0.0086505	0.0085059	0.0050826	0.0036732
Tight (TOL) Bar	0.0083951	0.0089560	0.0089550	0.0033530	0.0031983
Tight (TOL) Cra	0.0007756	0.0091284	0.0088383	0.0078626	0.0036433
Tight (TOL) End	0.0067282	0.0086884	0.0085523	0.0050743	0.0036874
Tight (MOL) Bar	0.0076827	0.0093809	0.0093869	0.0033977	0.0027514
Tight (MOL) Cra	0.0011143	0.0088163	0.0083481	0.0074047	0.0033046
Tight (MOL) End	0.0061793	0.0091680	0.0090026	0.0053448	0.0031735