

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0883273	0.0221846	0.0221904	0.0039260	0.0026731
Loose Cra	0.0315467	0.0129872	0.0128207	0.0124533	0.0029361
Loose End	0.5770270	0.0253020	0.0295288	0.0086110	0.0011335
Loose (TOL) Bar	0.0693462	0.0241965	0.0242100	0.0037645	0.0027711
Loose (TOL) Cra	0.0253912	0.0127222	0.0125558	0.0120763	0.0030063
Loose (TOL) End	0.1487295	0.0261320	0.0279180	0.0067606	0.0025682
Loose (MOL) Bar	0.0235439	0.0069429	0.0069661	0.0033251	0.0027216
Loose (MOL) Cra	0.0100994	0.0120575	0.0120571	0.0119447	0.0015639
Loose (MOL) End	0.0909821	0.0081196	0.0125617	0.0062252	0.0012318
Medium Bar	0.0260249	0.0068978	0.0069184	0.0033473	0.0028019
Medium Cra	0.0191667	0.0121494	0.0119806	0.0117716	0.0021315
Medium End	0.0607332	0.0086459	0.0085768	0.0058496	0.0018191
Medium (TOL) Bar	0.0208086	0.0071658	0.0071768	0.0032968	0.0028455
Medium (TOL) Cra	0.0160624	0.0119541	0.0118726	0.0116348	0.0021932
Medium (TOL) End	0.0367501	0.0106750	0.0106178	0.0055059	0.0027189
Medium (MOL) Bar	0.0149081	0.0068908	0.0069040	0.0032288	0.0028199
Medium (MOL) Cra	0.0079488	0.0121425	0.0120953	0.0120166	0.0011790
Medium (MOL) End	0.0208201	0.0081723	0.0082378	0.0052497	0.0028613
Tight Bar	0.0103909	0.0060004	0.0060193	0.0030845	0.0025159
Tight Cra	0.0078511	0.0112625	0.0111553	0.0108907	0.0022909
Tight End	0.0402964	0.0076201	0.0074202	0.0055119	0.0013254
Tight (TOL) Bar	0.0093973	0.0059938	0.0060143	0.0030739	0.0025050
Tight (TOL) Cra	0.0078582	0.0112719	0.0111647	0.0109016	0.0022838
Tight (TOL) End	0.0183325	0.0086368	0.0082141	0.0051215	0.0024784
Tight (MOL) Bar	0.0067964	0.0060748	0.0060883	0.0030398	0.0023941
Tight (MOL) Cra	0.0053582	0.0133929	0.0133218	0.0132233	0.0007270
Tight (MOL) End	0.0128138	0.0079647	0.0077114	0.0050082	0.0026150

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0271625	0.0097036	0.0097146	0.0036277	0.0044265
Loose Cra	0.0250557	0.0140757	0.0140759	0.0136106	0.0033418
Loose End	0.0651860	0.0146757	0.0149868	0.0062435	0.0033465
Loose (TOL) Bar	0.0255666	0.0095923	0.0096045	0.0036077	0.0044154
Loose (TOL) Cra	0.0239857	0.0140354	0.0140301	0.0135698	0.0033976
Loose (TOL) End	0.0496429	0.0138542	0.0143663	0.0070009	0.0047918
Loose (MOL) Bar	0.0174232	0.0094799	0.0094982	0.0035331	0.0039710
Loose (MOL) Cra	0.0150948	0.0148938	0.0148276	0.0146598	0.0021466
Loose (MOL) End	0.0257162	0.0110152	0.0108486	0.0057673	0.0032277
Medium Bar	0.0112563	0.0087485	0.0087662	0.0033979	0.0041615
Medium Cra	0.0066203	0.0128952	0.0128667	0.0124424	0.0030146
Medium End	0.0161856	0.0082375	0.0082307	0.0055812	0.0029509
Medium (TOL) Bar	0.0109678	0.0086618	0.0086800	0.0033954	0.0041487
Medium (TOL) Cra	0.0066204	0.0128953	0.0128668	0.0124425	0.0030145
Medium (TOL) End	0.0123990	0.0083411	0.0082853	0.0054315	0.0031494
Medium (MOL) Bar	0.0097772	0.0087649	0.0087914	0.0033972	0.0036318
Medium (MOL) Cra	0.0059452	0.0147663	0.0147344	0.0143633	0.0031826
Medium (MOL) End	0.0089626	0.0087413	0.0084607	0.0055242	0.0028781
Tight Bar	0.0074797	0.0078104	0.0078268	0.0033376	0.0034183
Tight Cra	0.0069408	0.0125120	0.0125433	0.0123179	0.0011728
Tight End	0.0045154	0.0071347	0.0070949	0.0049594	0.0030196
Tight (TOL) Bar	0.0074025	0.0076968	0.0077137	0.0033386	0.0033950
Tight (TOL) Cra	0.0069412	0.0125131	0.0125444	0.0123190	0.0011724
Tight (TOL) End	0.0041340	0.0071844	0.0071507	0.0049338	0.0030422
Tight (MOL) Bar	0.0072634	0.0078939	0.0079137	0.0033646	0.0029315
Tight (MOL) Cra	0.0065376	0.0170122	0.0170387	0.0169083	0.0010689
Tight (MOL) End	0.0040676	0.0071836	0.0070975	0.0051024	0.0025106