

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0879712	0.0206373	0.0206327	0.0038863	0.0034645
Loose Cra	0.0325973	0.0133050	0.0130006	0.0126262	0.0030332
Loose End	0.5901044	0.0244101	0.0273976	0.0080704	0.0000647
Loose (TOL) Bar	0.0691712	0.0228593	0.0228704	0.0037458	0.0035822
Loose (TOL) Cra	0.0254635	0.0129568	0.0126977	0.0122456	0.0031347
Loose (TOL) End	0.1504421	0.0248041	0.0263915	0.0066922	0.0031132
Loose (MOL) Bar	0.0252854	0.0084945	0.0085295	0.0033819	0.0035914
Loose (MOL) Cra	0.0091052	0.0120572	0.0120500	0.0119313	0.0016777
Loose (MOL) End	0.0928582	0.0100121	0.0134663	0.0061022	0.0019847
Medium Bar	0.0275759	0.0083756	0.0083946	0.0033921	0.0036811
Medium Cra	0.0197432	0.0124740	0.0122018	0.0119770	0.0022915
Medium End	0.0633136	0.0106695	0.0105282	0.0057065	0.0024358
Medium (TOL) Bar	0.0223921	0.0086404	0.0086567	0.0033518	0.0037003
Medium (TOL) Cra	0.0163928	0.0122419	0.0120858	0.0118427	0.0023601
Medium (TOL) End	0.0378680	0.0126180	0.0124467	0.0053471	0.0035142
Medium (MOL) Bar	0.0166656	0.0085112	0.0085365	0.0033004	0.0036784
Medium (MOL) Cra	0.0070530	0.0120715	0.0120264	0.0119355	0.0013858
Medium (MOL) End	0.0226512	0.0108238	0.0107510	0.0051239	0.0037115
Tight Bar	0.0122706	0.0074546	0.0074800	0.0031453	0.0032681
Tight Cra	0.0077901	0.0117333	0.0116496	0.0113508	0.0025240
Tight End	0.0439961	0.0100192	0.0097442	0.0053990	0.0019024
Tight (TOL) Bar	0.0112094	0.0074829	0.0075108	0.0031392	0.0032514
Tight (TOL) Cra	0.0078000	0.0117396	0.0116559	0.0113592	0.0025141
Tight (TOL) End	0.0206362	0.0114800	0.0110116	0.0050363	0.0031008
Tight (MOL) Bar	0.0088467	0.0076778	0.0077002	0.0031242	0.0030543
Tight (MOL) Cra	0.0046667	0.0131047	0.0130209	0.0129358	0.0009592
Tight (MOL) End	0.0152952	0.0108259	0.0104996	0.0049504	0.0032953

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

Selection	fake rate	total(+)	total (-)	stat	bkg
Loose Bar	0.0302661	0.0139206	0.0139139	0.0037853	0.0076375
Loose Cra	0.0260154	0.0153763	0.0152722	0.0144228	0.0049270
Loose End	0.0733758	0.0141775	0.0141885	0.0061920	0.0059226
Loose (TOL) Bar	0.0283014	0.0138787	0.0138675	0.0037672	0.0076262
Loose (TOL) Cra	0.0249883	0.0154002	0.0153139	0.0144484	0.0050164
Loose (TOL) End	0.0473523	0.0277628	0.0275380	0.0058737	0.0060034
Loose (MOL) Bar	0.0202837	0.0136488	0.0136509	0.0037189	0.0069315
Loose (MOL) Cra	0.0154466	0.0158938	0.0157731	0.0154198	0.0033063
Loose (MOL) End	0.0290387	0.0154889	0.0149401	0.0057830	0.0057266
Medium Bar	0.0139790	0.0126381	0.0126557	0.0035785	0.0069488
Medium Cra	0.0070381	0.0140401	0.0139396	0.0132658	0.0042136
Medium End	0.0184329	0.0122211	0.0120688	0.0055658	0.0055141
Medium (TOL) Bar	0.0136213	0.0125934	0.0126108	0.0035823	0.0069473
Medium (TOL) Cra	0.0070382	0.0140401	0.0139397	0.0132659	0.0042135
Medium (TOL) End	0.0139586	0.0126612	0.0123478	0.0054346	0.0056822
Medium (MOL) Bar	0.0124600	0.0126877	0.0127179	0.0036105	0.0061326
Medium (MOL) Cra	0.0065488	0.0156740	0.0155565	0.0150897	0.0037653
Medium (MOL) End	0.0107303	0.0133746	0.0127311	0.0055747	0.0053395
Tight Bar	0.0098854	0.0111074	0.0110979	0.0034850	0.0051144
Tight Cra	0.0082331	0.0132157	0.0132021	0.0130167	0.0016122
Tight End	0.0063650	0.0095798	0.0094372	0.0051163	0.0042431
Tight (TOL) Bar	0.0097615	0.0110211	0.0110114	0.0034929	0.0051035
Tight (TOL) Cra	0.0082337	0.0132167	0.0132031	0.0130178	0.0016116
Tight (TOL) End	0.0060644	0.0096839	0.0095460	0.0051074	0.0042287
Tight (MOL) Bar	0.0097127	0.0112807	0.0112754	0.0035602	0.0044338
Tight (MOL) Cra	0.0089156	0.0027573	0.0030766	0.0020509	0.0000079
Tight (MOL) End	0.0061519	0.0100100	0.0097970	0.0054622	0.0035110