

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

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## 1 1K Sample Evaluation

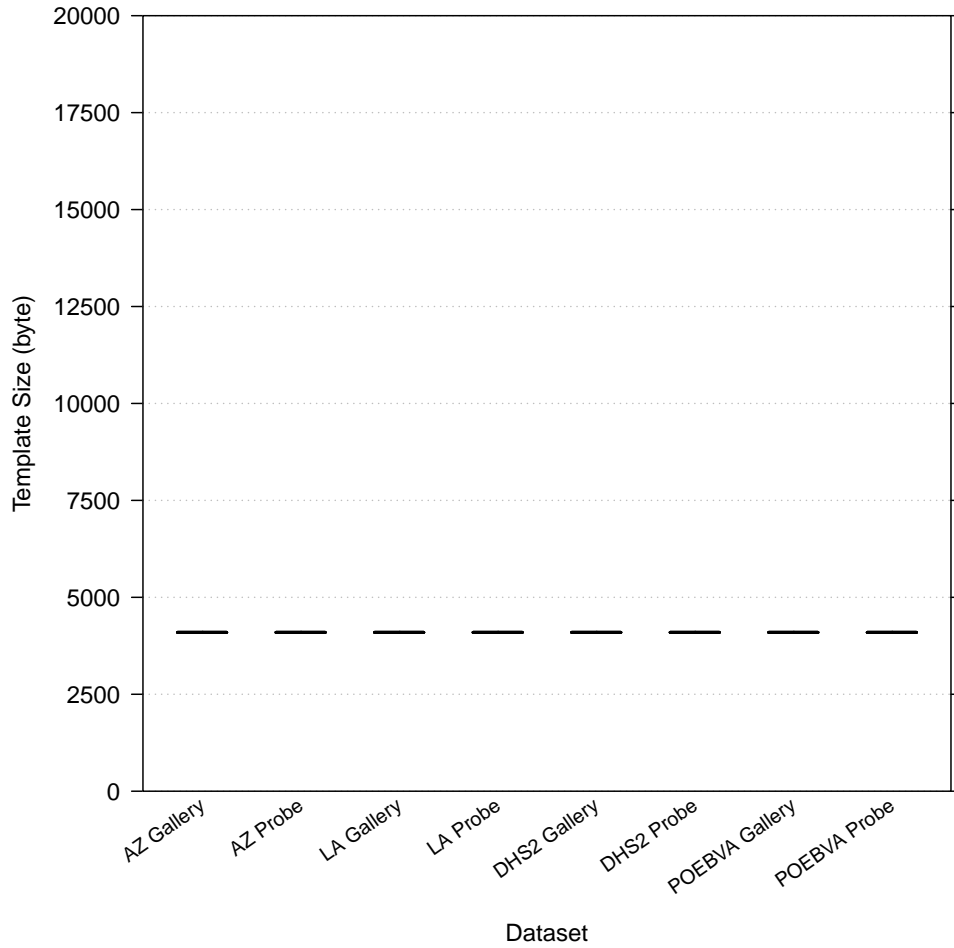


Figure 1: 1K Sample Evaluation – Template Size Distribution

	AZ		LA		DHS2		POEBVA	
	Gallery	Probe	Gallery	Probe	Gallery	Probe	Gallery	Probe
<i>Dimensions</i>	800x800	800x800	412x1000	400x776	368x368	368x368	500x500	368x368
<i>Maximum</i>	4096	4096	4096	4096	4096	4096	4096	4096
75%	4096	4096	4096	4096	4096	4096	4096	4096
<i>Median</i>	4096	4096	4096	4096	4096	4096	4096	4096
25%	4096	4096	4096	4096	4096	4096	4096	4096
<i>Minimum</i>	4096	4096	4096	4096	4096	4096	4096	4096

Table 1: Sample Dataset — Template Size Distribution

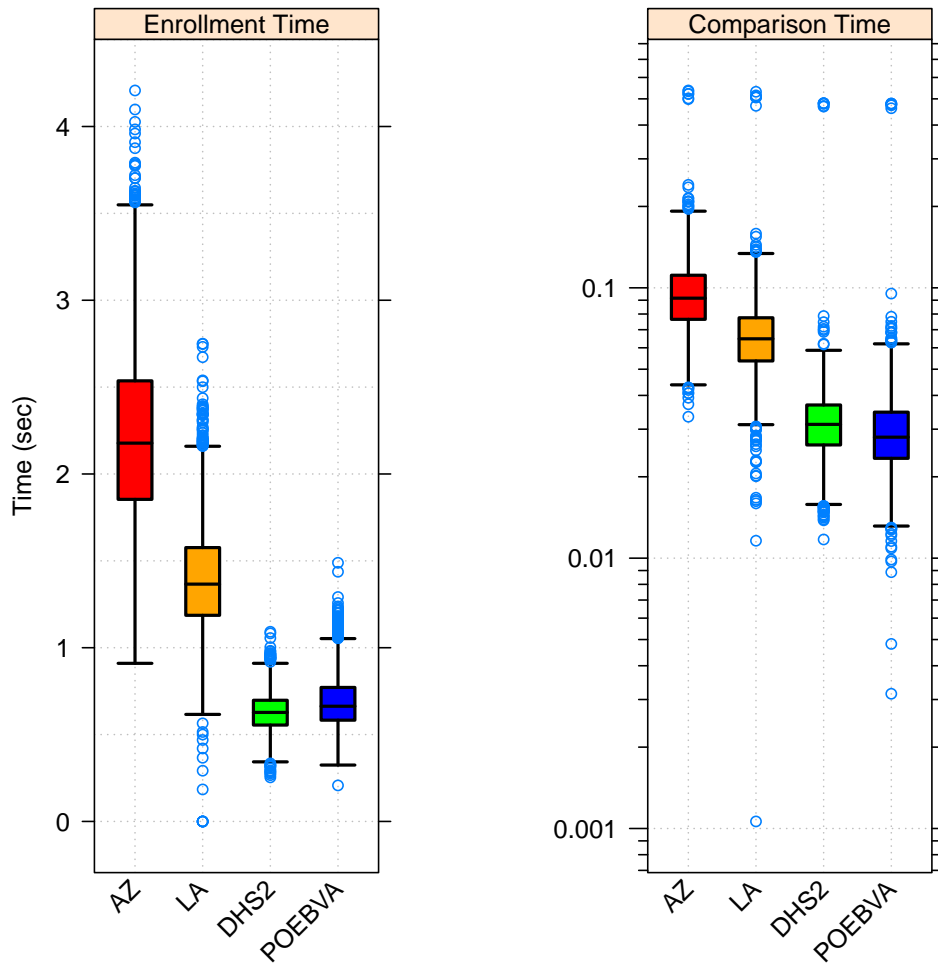


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	4.207	2.750	1.092	1.489
<i>75%</i>	2.536	1.576	0.697	0.771
<i>Median</i>	2.178	1.366	0.628	0.663
<i>25%</i>	1.854	1.187	0.555	0.583
<i>Minimum</i>	0.910	0.000	0.254	0.207

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	0.537	0.531	0.482	0.481
<i>75%</i>	0.111	0.077	0.037	0.035
<i>Median</i>	0.092	0.065	0.031	0.028
<i>25%</i>	0.076	0.054	0.026	0.023
<i>Minimum</i>	0.033	0.001	0.012	0.003

Table 3: Comparison Times (sec)

## 2 Full Evaluation

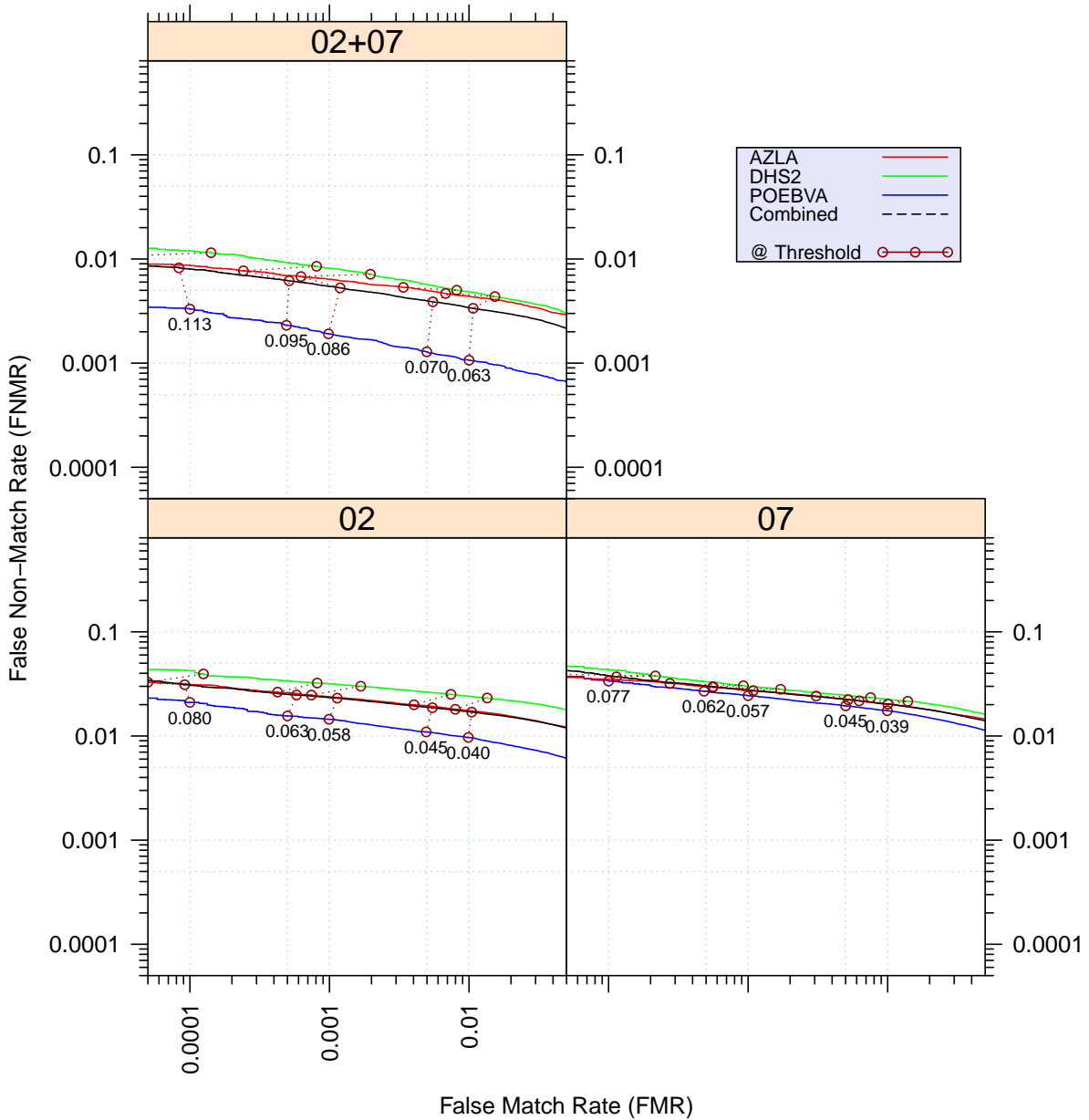


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

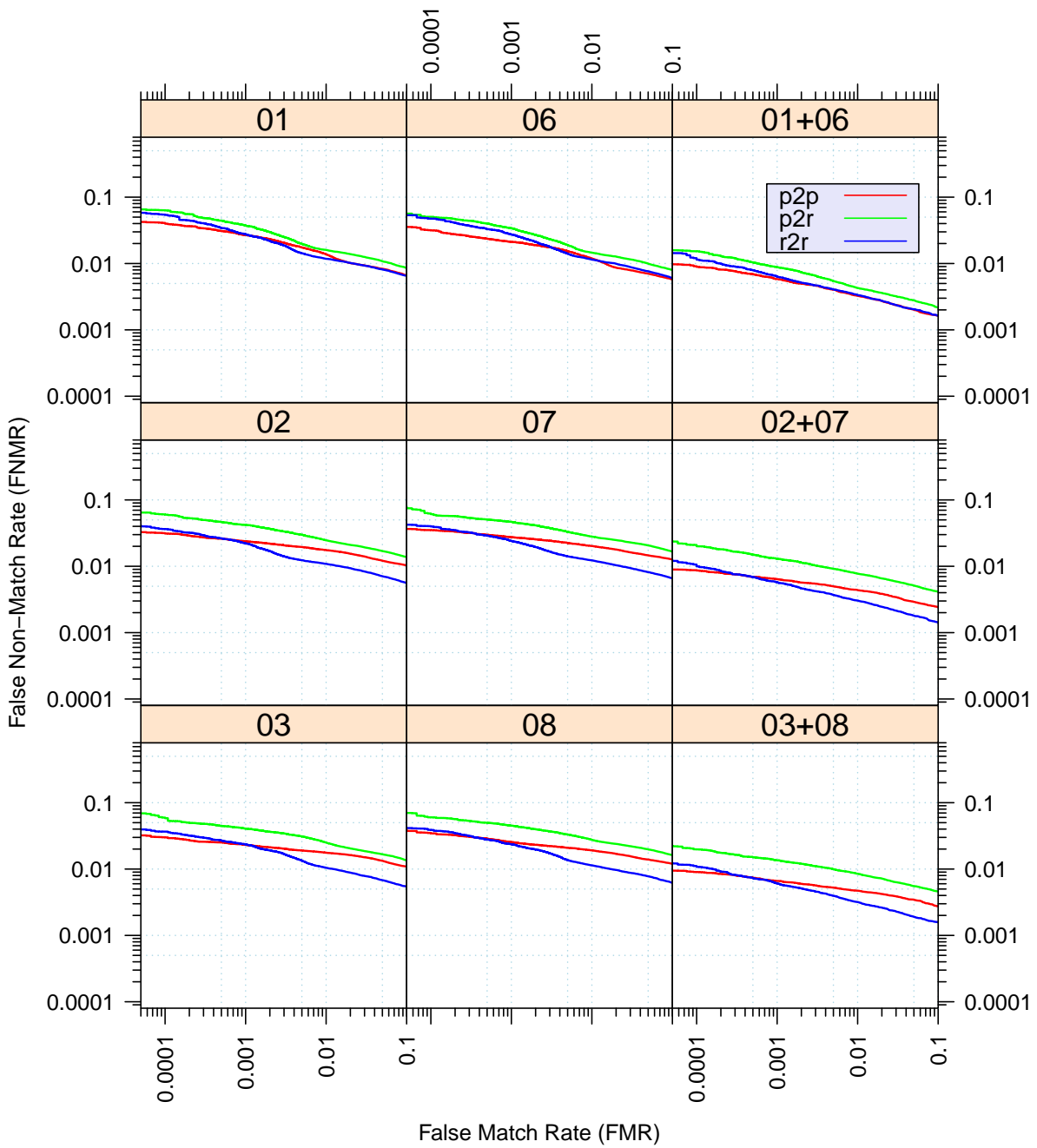


Figure 4: Full Evaluation – DET for all finger positions from AZLA

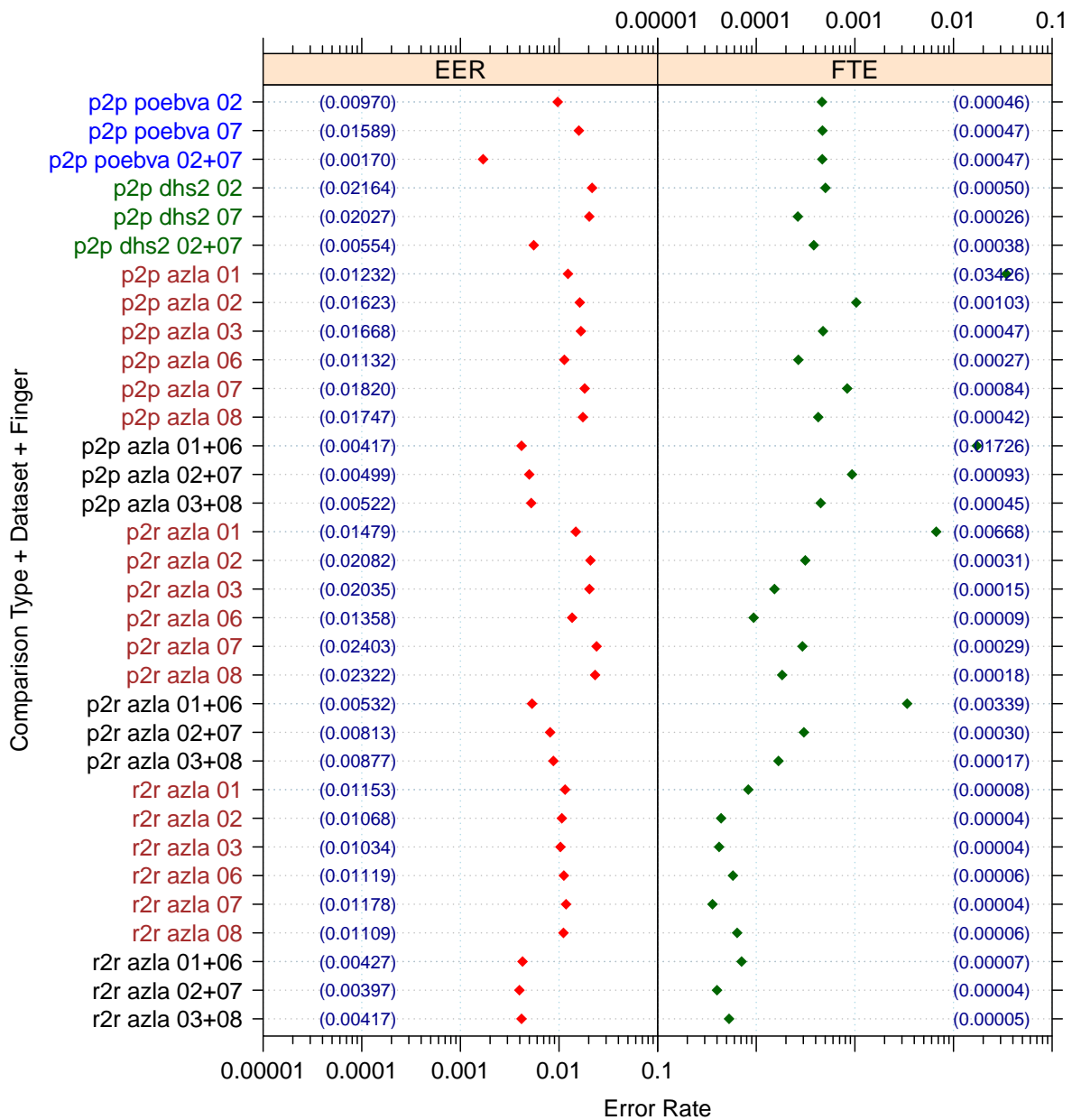


Figure 5: Full Evaluation – EERs and FTEs

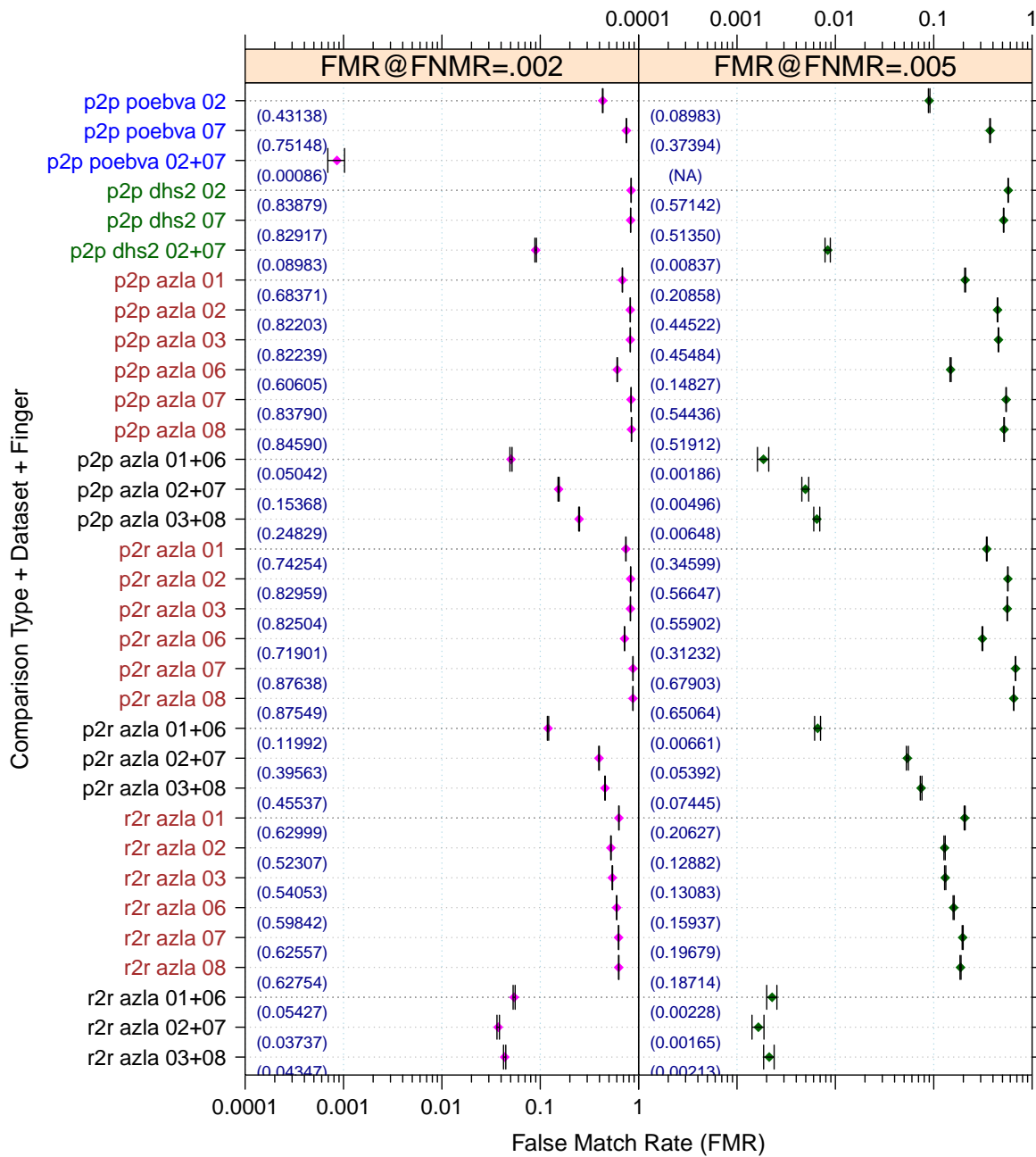


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.



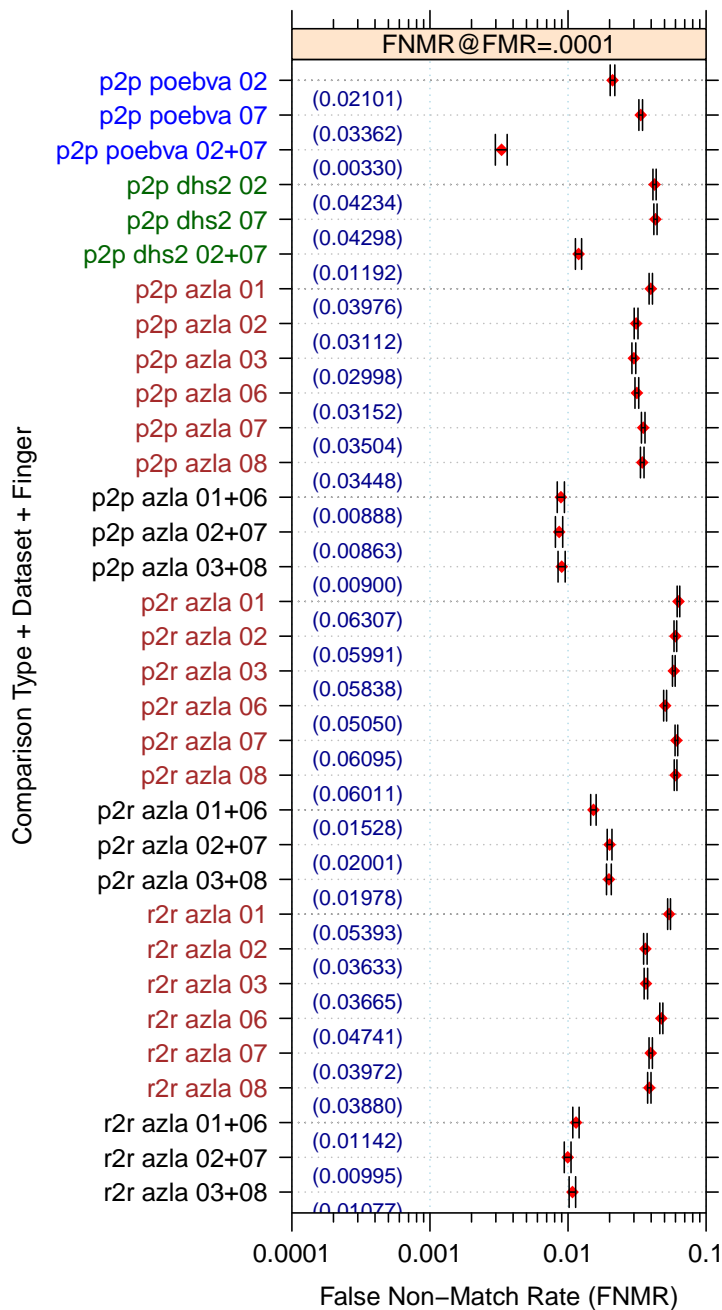


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.

		<b>EER</b>	<b>FTE Rate</b>
<b>Plain to Plain</b>	<i>R Thumb</i>	0.0123	0.0343
	<i>R Index</i>	0.0162	0.0010
	<i>R Middle</i>	0.0167	0.0005
	<i>L Thumb</i>	0.0113	0.0003
	<i>L Index</i>	0.0182	0.0008
	<i>L Middle</i>	0.0175	0.0004
	<i>R/L Thumb</i>	0.0042	0.0173
	<i>R/L Index</i>	0.0050	0.0009
	<i>R/L Middle</i>	0.0052	0.0004
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0148	0.0067
	<i>R Index</i>	0.0208	0.0003
	<i>R Middle</i>	0.0204	0.0002
	<i>L Thumb</i>	0.0136	0.0001
	<i>L Index</i>	0.0240	0.0003
	<i>L Middle</i>	0.0232	0.0002
	<i>R/L Thumb</i>	0.0053	0.0034
	<i>R/L Index</i>	0.0081	0.0003
	<i>R/L Middle</i>	0.0088	0.0002
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0115	0.0001
	<i>R Index</i>	0.0107	0.0000
	<i>R Middle</i>	0.0103	0.0000
	<i>L Thumb</i>	0.0112	0.0001
	<i>L Index</i>	0.0118	0.0000
	<i>L Middle</i>	0.0111	0.0001
	<i>R/L Thumb</i>	0.0043	0.0001
	<i>R/L Index</i>	0.0040	0.0000
	<i>R/L Middle</i>	0.0042	0.0001

Table 4: EER and FTE — Dataset AZLA

	<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0216	0.0005
<i>L Index</i>	0.0203	0.0003
<i>R/L Index</i>	0.0055	0.0004

Table 5: EER and FTE — Dataset DHS2

	<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0097	0.0005
<i>L Index</i>	0.0159	0.0005
<i>R/L Index</i>	0.0017	0.0005

Table 6: EER and FTE — Dataset POEBVA

		<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<b>Plain to Plain</b>	<i>R Thumb</i>	0.0398 ±0.00111	0.6837 ±0.00263	0.2086 ±0.00230
	<i>R Index</i>	0.0311 ±0.00098	0.8220 ±0.00216	0.4452 ±0.00281
	<i>R Middle</i>	0.0300 ±0.00097	0.8224 ±0.00216	0.4548 ±0.00282
	<i>L Thumb</i>	0.0315 ±0.00099	0.6060 ±0.00277	0.1483 ±0.00201
	<i>L Index</i>	0.0350 ±0.00104	0.8379 ±0.00209	0.5444 ±0.00282
	<i>L Middle</i>	0.0345 ±0.00103	0.8459 ±0.00204	0.5191 ±0.00283
	<i>R/L Thumb</i>	0.0089 ±0.00053	0.0504 ±0.00124	0.0019 ±0.00024
	<i>R/L Index</i>	0.0086 ±0.00052	0.1537 ±0.00204	0.0050 ±0.00040
	<i>R/L Middle</i>	0.0090 ±0.00053	0.2483 ±0.00244	0.0065 ±0.00045
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0631 ±0.00137	0.7425 ±0.00247	0.3460 ±0.00269
	<i>R Index</i>	0.0599 ±0.00134	0.8296 ±0.00213	0.5665 ±0.00280
	<i>R Middle</i>	0.0584 ±0.00133	0.8250 ±0.00215	0.5590 ±0.00281
	<i>L Thumb</i>	0.0505 ±0.00124	0.7190 ±0.00254	0.3123 ±0.00262
	<i>L Index</i>	0.0610 ±0.00135	0.8764 ±0.00186	0.6790 ±0.00264
	<i>L Middle</i>	0.0601 ±0.00135	0.8755 ±0.00187	0.6506 ±0.00270
	<i>R/L Thumb</i>	0.0153 ±0.00069	0.1199 ±0.00184	0.0066 ±0.00046
	<i>R/L Index</i>	0.0200 ±0.00079	0.3956 ±0.00277	0.0539 ±0.00128
	<i>R/L Middle</i>	0.0198 ±0.00079	0.4554 ±0.00282	0.0745 ±0.00148
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0539 ±0.00128	0.6300 ±0.00273	0.2063 ±0.00229
	<i>R Index</i>	0.0363 ±0.00106	0.5231 ±0.00283	0.1288 ±0.00189
	<i>R Middle</i>	0.0367 ±0.00106	0.5405 ±0.00282	0.1308 ±0.00191
	<i>L Thumb</i>	0.0474 ±0.00120	0.5984 ±0.00277	0.1594 ±0.00207
	<i>L Index</i>	0.0397 ±0.00111	0.6256 ±0.00274	0.1968 ±0.00225
	<i>L Middle</i>	0.0388 ±0.00109	0.6275 ±0.00274	0.1871 ±0.00221
	<i>R/L Thumb</i>	0.0114 ±0.00060	0.0543 ±0.00128	0.0023 ±0.00027
	<i>R/L Index</i>	0.0100 ±0.00056	0.0374 ±0.00107	0.0016 ±0.00023
	<i>R/L Middle</i>	0.0108 ±0.00058	0.0435 ±0.00115	0.0021 ±0.00026

Table 7: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset AZLA

	<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<i>R Index</i>	0.0423 ±0.00114	0.8388 ±0.00208	0.5714 ±0.00280
<i>L Index</i>	0.0430 ±0.00115	0.8292 ±0.00213	0.5135 ±0.00283
<i>R/L Index</i>	0.0119 ±0.00061	0.0898 ±0.00162	0.0084 ±0.00052

Table 8: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset DHS2

	<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<i>R Index</i>	0.0210 ±0.00081	0.4314 ±0.00280	0.0898 ±0.00162
<i>L Index</i>	0.0336 ±0.00102	0.7515 ±0.00245	0.3739 ±0.00274
<i>R/L Index</i>	0.0033 ±0.00032	0.0009 ±0.00017	n/a

Table 9: Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset POEBVA

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.

### 3 Original PFT Dataset

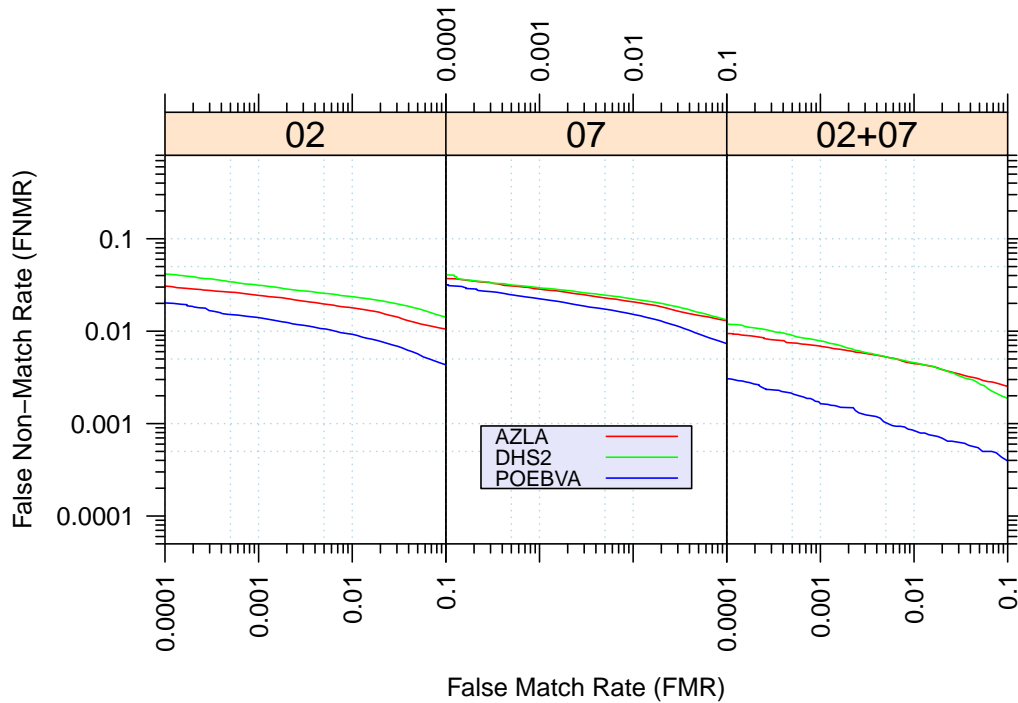


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
<b>AZLA</b>	<i>R Index</i>	0.0164	0.0306	0.4267
	<i>L Index</i>	0.0183	0.0372	0.5727
	<i>R/L Index</i>	0.0052	0.0095	0.0066
<b>DHS2</b>	<i>R Index</i>	0.0211	0.0415	0.5608
	<i>L Index</i>	0.0198	0.0405	0.5043
	<i>R/L Index</i>	0.0052	0.0120	0.0062
<b>POEBVA</b>	<i>R Index</i>	0.0092	0.0201	0.0654
	<i>L Index</i>	0.0138	0.0317	0.2394
	<i>R/L Index</i>	0.0015	0.0031	n/a

Table 10: Details for EER, FNMR@FMR = 0.0001, and FMR@FNMR = 0.005 — Original PFT Dataset

**Note:** “n/a” indicates that the value could not be reliably measured with the available sample size.