

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

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# 1 1K Sample Evaluation

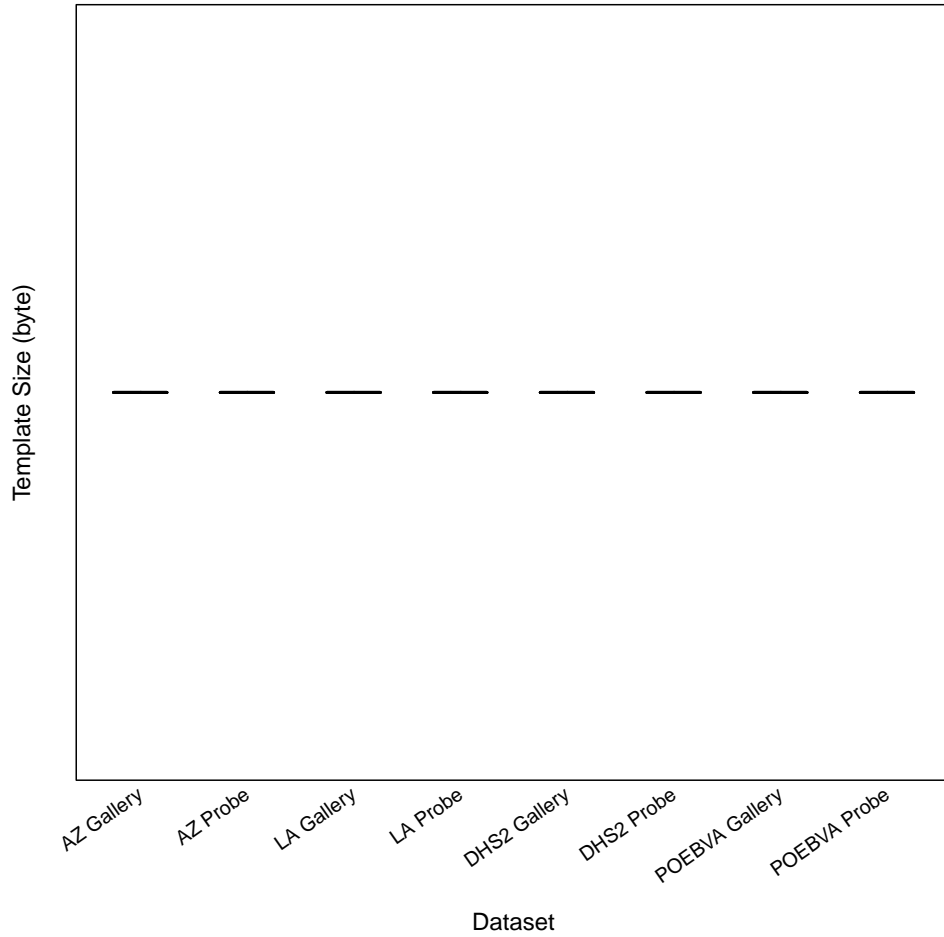


Figure 1: 1K Sample Evaluation – Template Size Distribution

	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>	8192	8192		8192		8192		8192
75%	8192	8192	8192	8192	8192	8192	8192	8192
<i>Median</i>	8192							8192
25%	8192	8192	8192	8192	8192	8192	8192	8192
<i>Minimum</i>	8192							8192

Table 1: Sample Dataset — Template Size Distribution

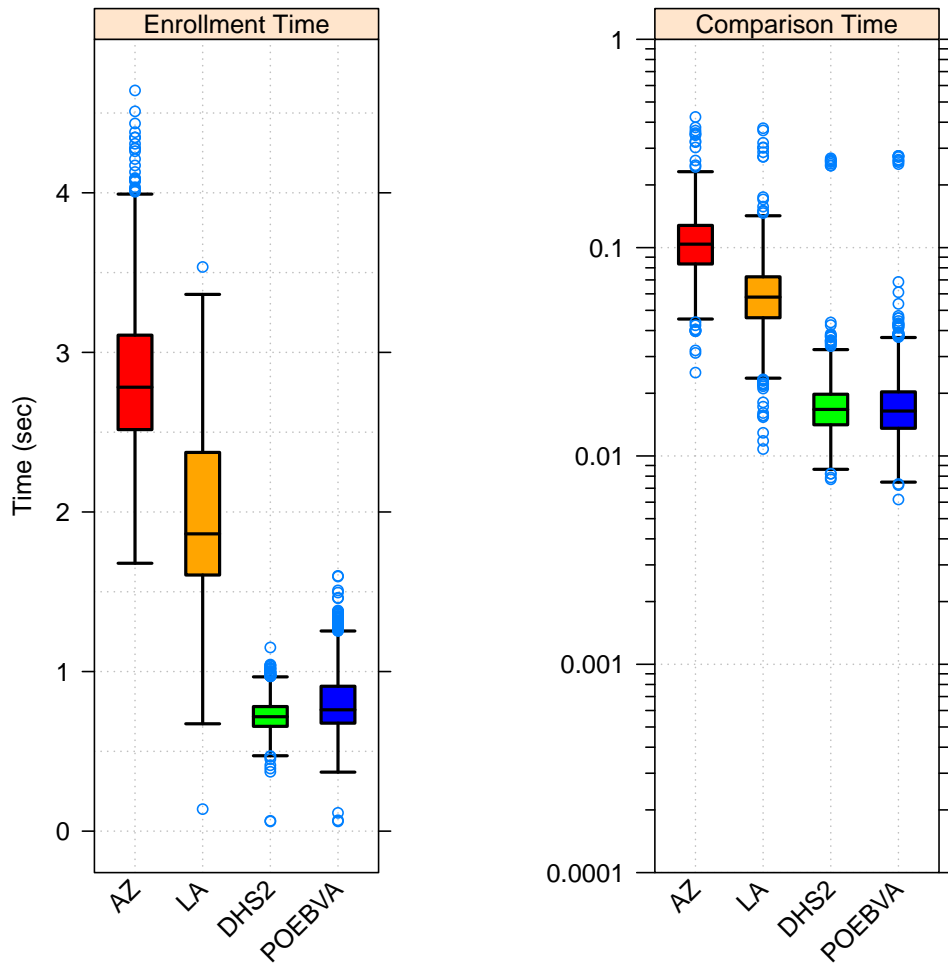


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	4.641	3.535	1.151	1.600
<i>75%</i>	3.108	2.373	0.781	0.908
<i>Median</i>	2.782	1.863	0.717	0.760
<i>25%</i>	2.516	1.605	0.657	0.677
<i>Minimum</i>	1.679	0.138	0.061	0.061

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	0.424	0.374	0.269	0.276
<i>75%</i>	0.128	0.072	0.020	0.020
<i>Median</i>	0.104	0.058	0.017	0.016
<i>25%</i>	0.083	0.046	0.014	0.014
<i>Minimum</i>	0.025	0.011	0.008	0.006

Table 3: Comparison Times (sec)

## 2 Full Evaluation

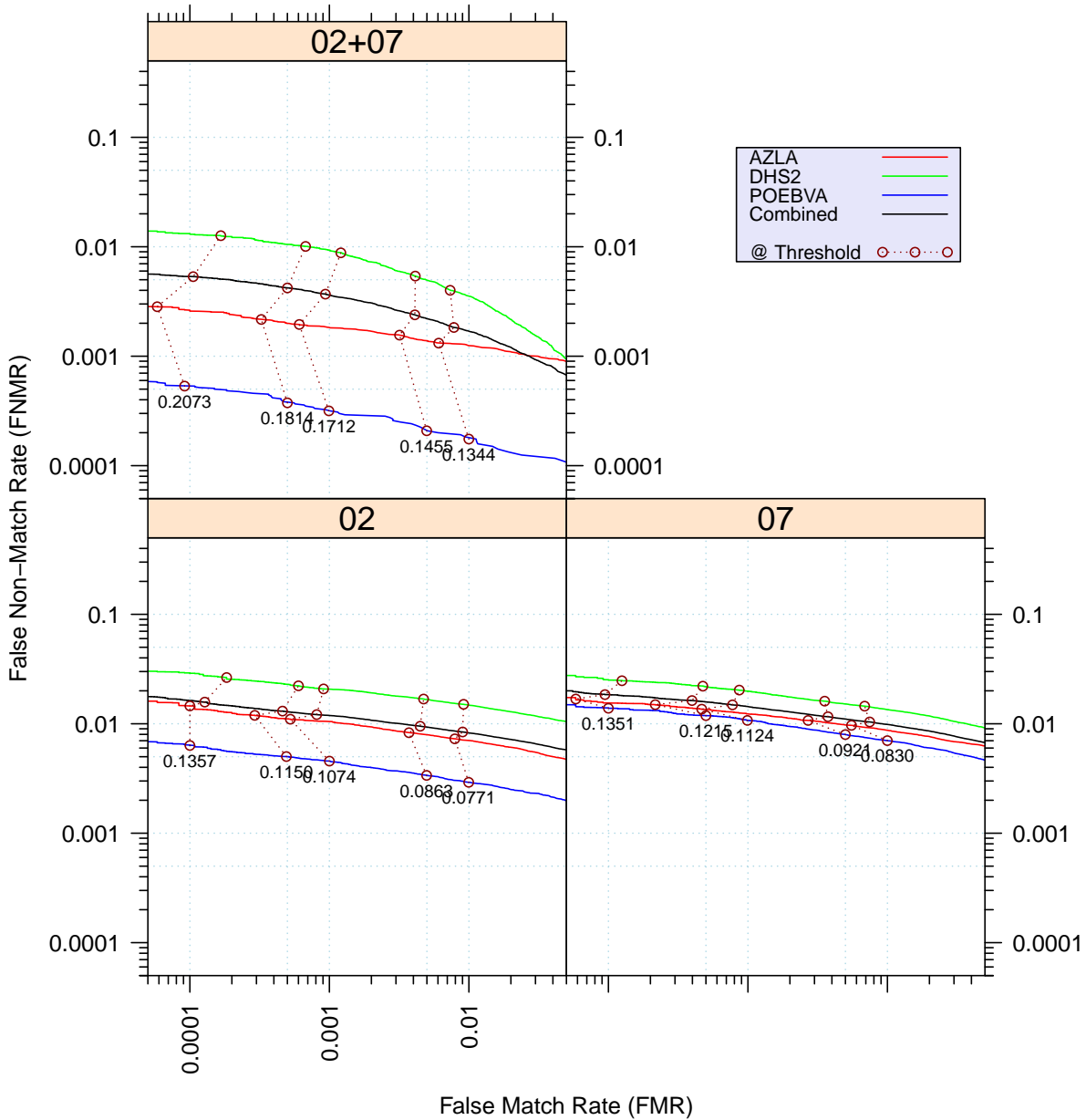


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

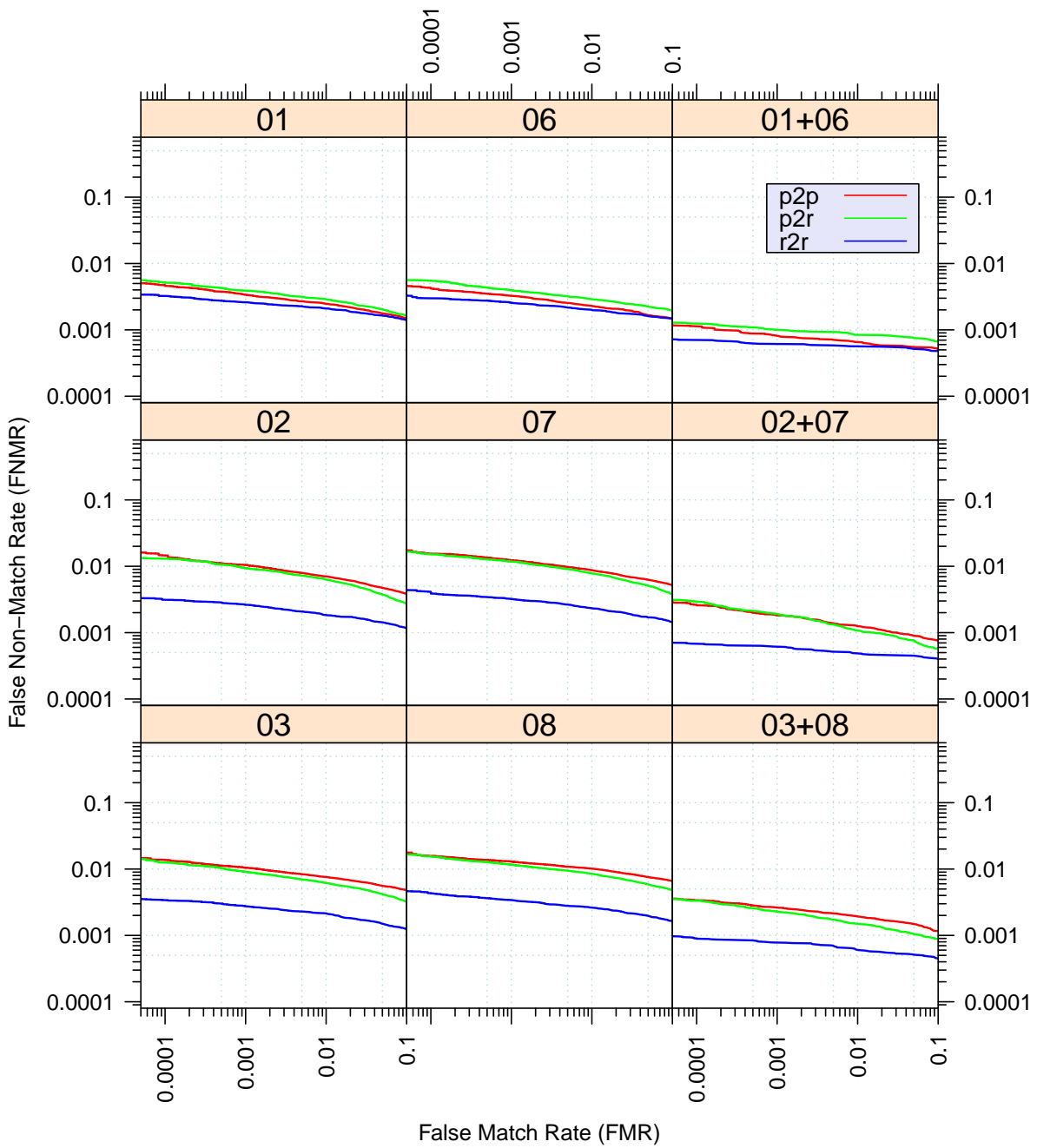


Figure 4: Full Evaluation – DET for all finger positions from AZLA

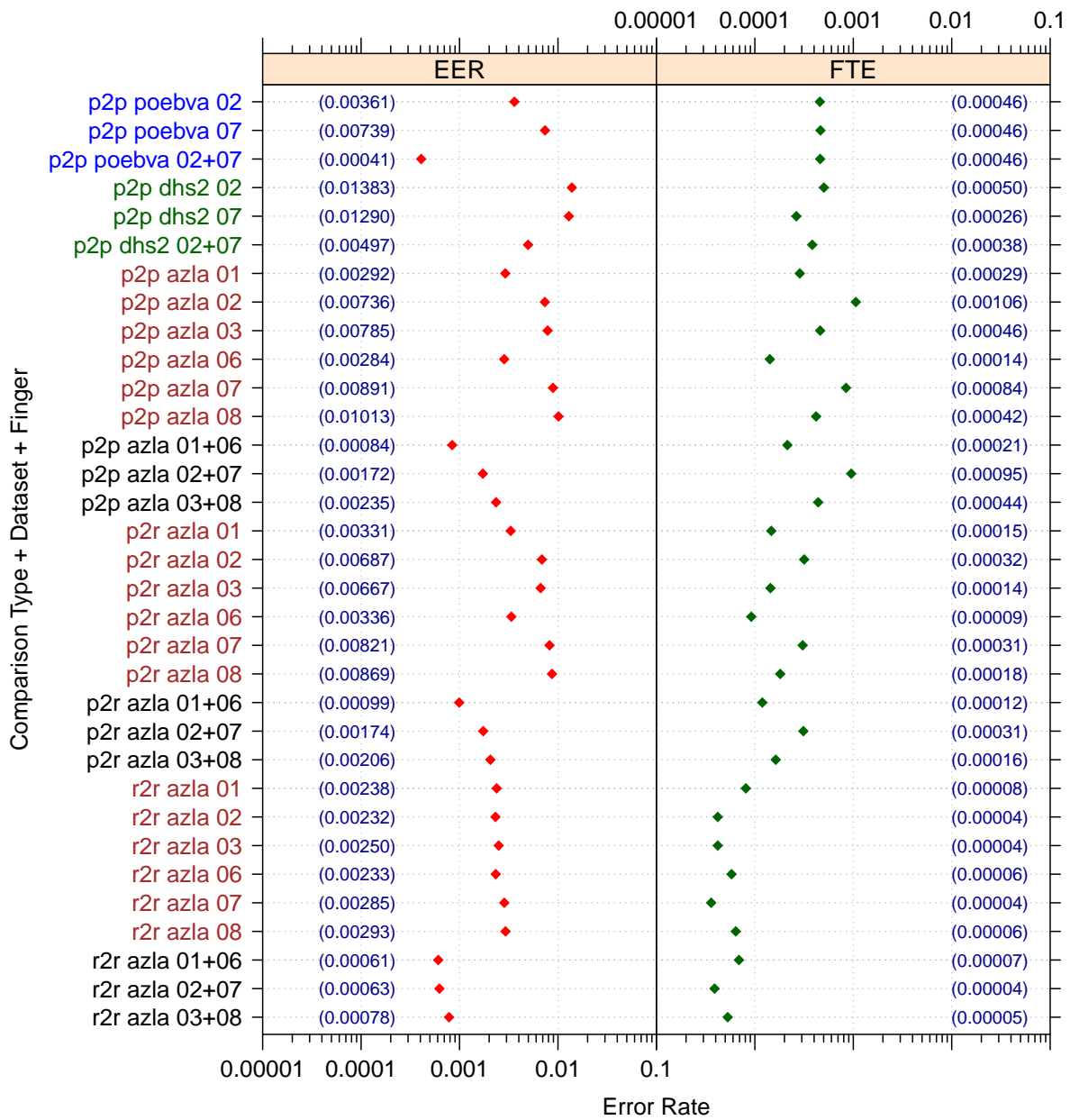


Figure 5: Full Evaluation – EERs and FTEs

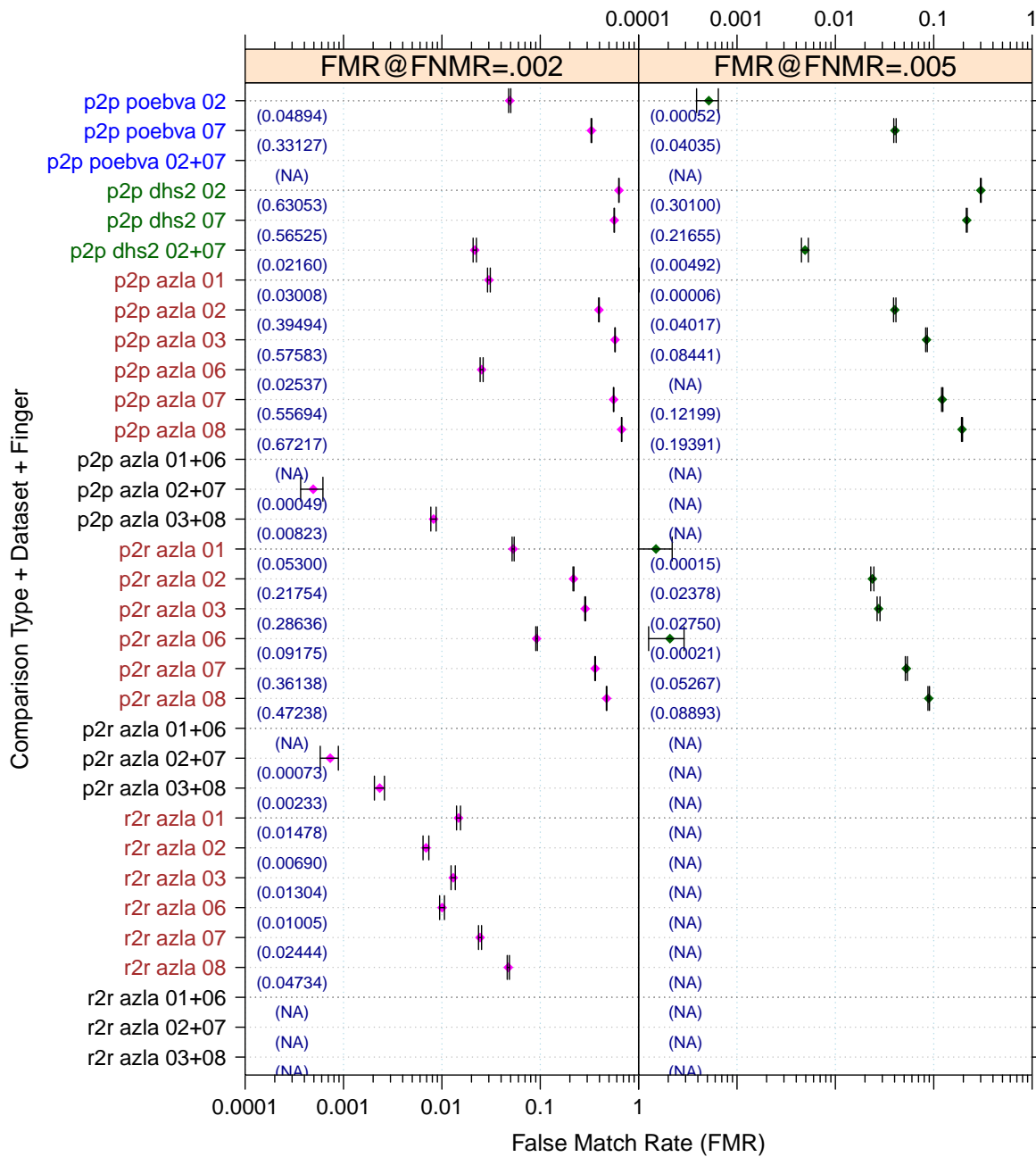


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

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



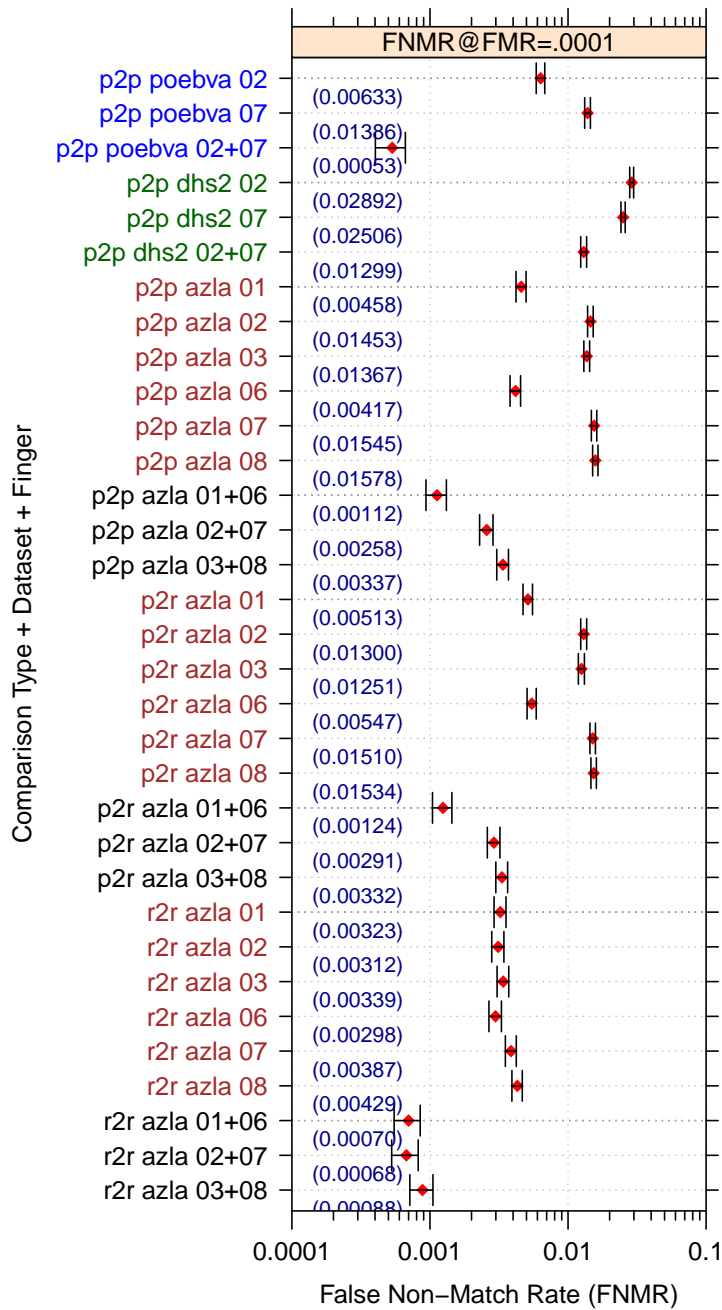


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**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>	0.0029	0.0003
	<i>R Index</i>	0.0074	0.0011
	<i>R Middle</i>	0.0078	0.0005
	<i>L Thumb</i>	0.0028	0.0001
	<i>L Index</i>	0.0089	0.0008
	<i>L Middle</i>	0.0101	0.0004
	<i>R/L Thumb</i>	0.0008	0.0002
	<i>R/L Index</i>	0.0017	0.0010
	<i>R/L Middle</i>	0.0024	0.0004
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0033	0.0001
	<i>R Index</i>	0.0069	0.0003
	<i>R Middle</i>	0.0067	0.0001
	<i>L Thumb</i>	0.0034	0.0001
	<i>L Index</i>	0.0082	0.0003
	<i>L Middle</i>	0.0087	0.0002
	<i>R/L Thumb</i>	0.0010	0.0001
	<i>R/L Index</i>	0.0017	0.0003
	<i>R/L Middle</i>	0.0021	0.0002
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0024	0.0001
	<i>R Index</i>	0.0023	0.0000
	<i>R Middle</i>	0.0025	0.0000
	<i>L Thumb</i>	0.0023	0.0001
	<i>L Index</i>	0.0029	0.0000
	<i>L Middle</i>	0.0029	0.0001
	<i>R/L Thumb</i>	0.0006	0.0001
	<i>R/L Index</i>	0.0006	0.0000
	<i>R/L Middle</i>	0.0008	0.0001

Table 4: EER and FTE — Dataset AZLA

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0138	0.0005	
<i>L Index</i>	0.0129	0.0003	
<i>R/L Index</i>	0.0050	0.0004	

Table 5: EER and FTE — Dataset DHS2

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0036	0.0005	
<i>L Index</i>	0.0074	0.0005	
<i>R/L Index</i>	0.0004	0.0005	

Table 6: EER and FTE — Dataset POEBVA

		FNMR@FMR = 0.0001	FMR@FNMR = 0.002	FMR@FNMR = 0.005
Plain to Plain	<i>R Thumb</i>	0.0046 ±0.00038	0.0301 ±0.00097	n/a
	<i>R Index</i>	0.0145 ±0.00068	0.3949 ±0.00277	0.0402 ±0.00111
	<i>R Middle</i>	0.0137 ±0.00066	0.5758 ±0.00280	0.0844 ±0.00157
	<i>L Thumb</i>	0.0042 ±0.00036	0.0254 ±0.00089	n/a
	<i>L Index</i>	0.0155 ±0.00070	0.5569 ±0.00281	0.1220 ±0.00185
	<i>L Middle</i>	0.0158 ±0.00071	0.6722 ±0.00266	0.1939 ±0.00224
	<i>R/L Thumb</i>	0.0011 ±0.00019	n/a	n/a
	<i>R/L Index</i>	0.0026 ±0.00029	0.0005 ±0.00013	n/a
	<i>R/L Middle</i>	0.0034 ±0.00033	0.0082 ±0.00051	n/a
Plain to Rolled	<i>R Thumb</i>	0.0051 ±0.00040	0.0530 ±0.00127	0.0001 ±0.00007
	<i>R Index</i>	0.0130 ±0.00064	0.2175 ±0.00233	0.0238 ±0.00086
	<i>R Middle</i>	0.0125 ±0.00063	0.2864 ±0.00256	0.0275 ±0.00093
	<i>L Thumb</i>	0.0055 ±0.00042	0.0917 ±0.00163	0.0002 ±0.00008
	<i>L Index</i>	0.0151 ±0.00069	0.3614 ±0.00272	0.0527 ±0.00126
	<i>L Middle</i>	0.0153 ±0.00069	0.4724 ±0.00282	0.0889 ±0.00161
	<i>R/L Thumb</i>	0.0012 ±0.00020	n/a	n/a
	<i>R/L Index</i>	0.0029 ±0.00030	0.0007 ±0.00015	n/a
	<i>R/L Middle</i>	0.0033 ±0.00033	0.0023 ±0.00027	n/a
Rolled to Rolled	<i>R Thumb</i>	0.0032 ±0.00032	0.0148 ±0.00068	n/a
	<i>R Index</i>	0.0031 ±0.00032	0.0069 ±0.00047	n/a
	<i>R Middle</i>	0.0034 ±0.00033	0.0130 ±0.00064	n/a
	<i>L Thumb</i>	0.0030 ±0.00031	0.0100 ±0.00056	n/a
	<i>L Index</i>	0.0039 ±0.00035	0.0244 ±0.00087	n/a
	<i>L Middle</i>	0.0043 ±0.00037	0.0473 ±0.00120	n/a
	<i>R/L Thumb</i>	0.0007 ±0.00015	n/a	n/a
	<i>R/L Index</i>	0.0007 ±0.00015	n/a	n/a
	<i>R/L Middle</i>	0.0009 ±0.00017	n/a	n/a

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

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

	<b>FNMR@FMR = 0.0001</b>	<b>FMR@FNMR = 0.002</b>	<b>FMR@FNMR = 0.005</b>
<i>R Index</i>	0.0289 ±0.00095	0.6305 ±0.00273	0.3010 ±0.00260
<i>L Index</i>	0.0251 ±0.00088	0.5653 ±0.00281	0.2165 ±0.00233
<i>R/L Index</i>	0.0130 ±0.00064	0.0216 ±0.00082	0.0049 ±0.00040

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>	0.0063 ±0.00045	0.0489 ±0.00122	0.0005 ±0.00013
<i>L Index</i>	0.0139 ±0.00066	0.3313 ±0.00266	0.0403 ±0.00111
<i>R/L Index</i>	0.0005 ±0.00013	n/a	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

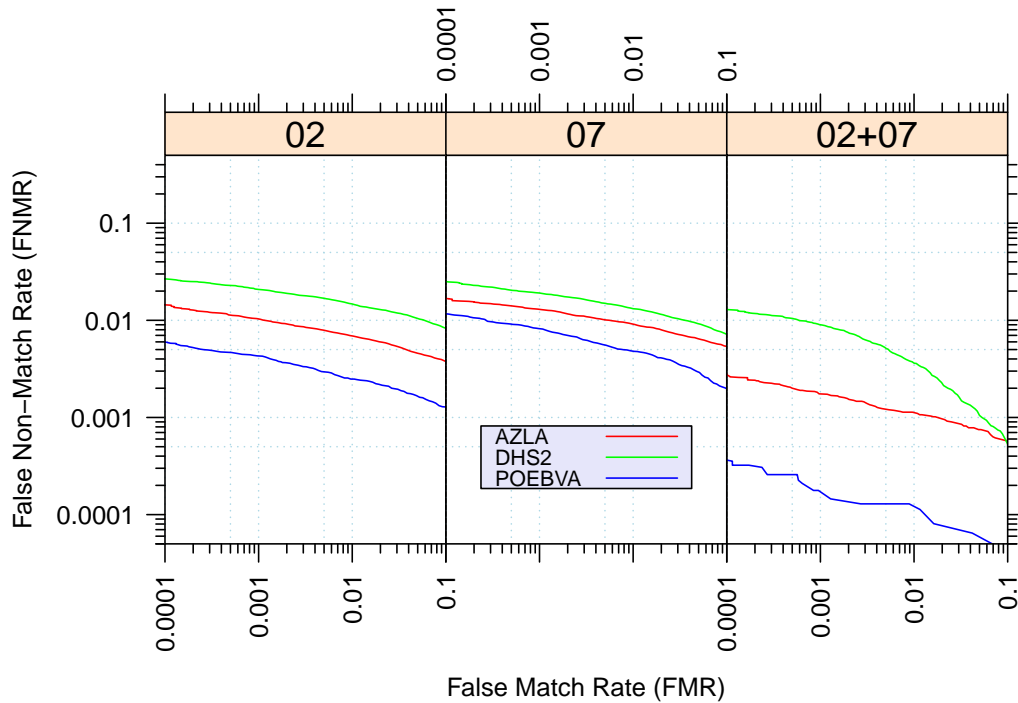


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
<b>AZLA</b>	<i>R Index</i>	0.0073	0.0144	0.0372
	<i>L Index</i>	0.0092	0.0167	0.1264
	<i>R/L Index</i>	0.0016	0.0027	n/a
<b>DHS2</b>	<i>R Index</i>	0.0137	0.0267	0.2911
	<i>L Index</i>	0.0127	0.0251	0.2232
	<i>R/L Index</i>	0.0050	0.0129	0.0053
<b>POEBVA</b>	<i>R Index</i>	0.0033	0.0060	0.0003
	<i>L Index</i>	0.0054	0.0116	0.0075
	<i>R/L Index</i>	0.0003	0.0004	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.