

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

Participant 3T — Neurotechnology

Image Group

Information Access Division

Information Technology Laboratory



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# 1 1K Sample Evaluation

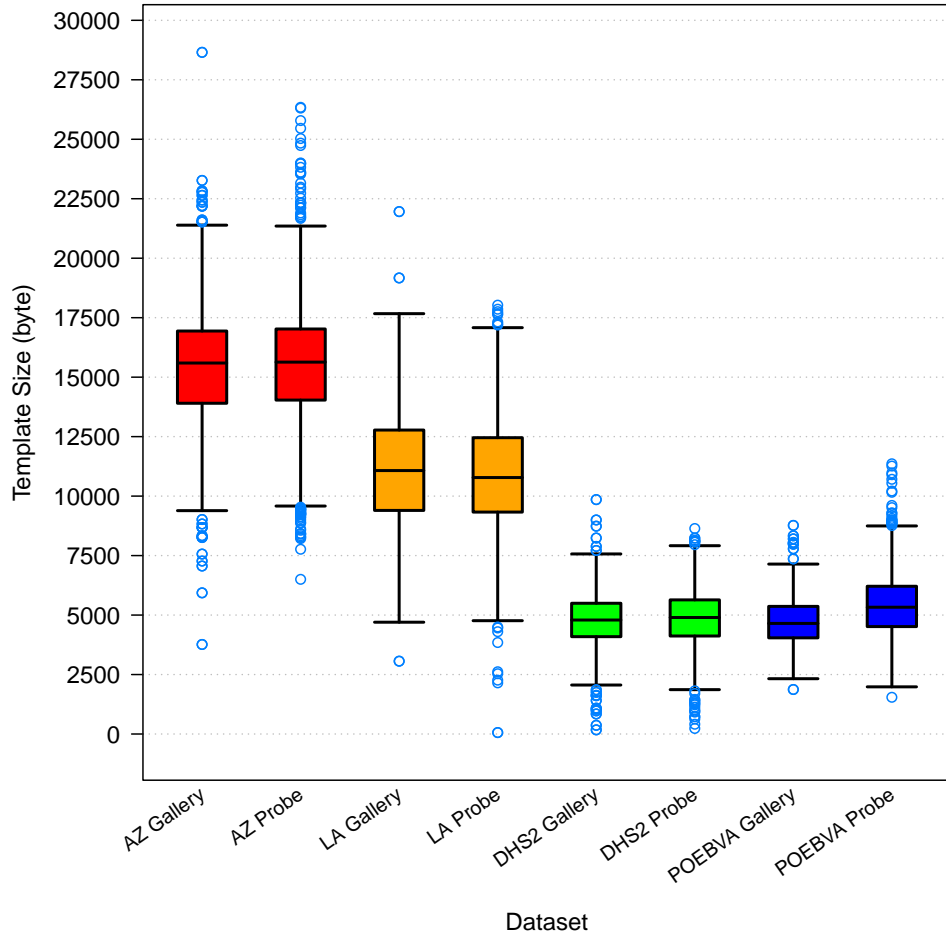


Figure 1: 1K Sample Evaluation – Template Size Distribution

	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>	28655	26344	21959	18026	9852	8636	8766	11357
75%	16939.5	17024.5	12777	12456	5496	5638	5365	6210
<i>Median</i>	15594	15631.5	11074	10780	4791	4897	4648.5	5329
25%	13903	14036	9398.5	9328.5	4092	4120	4042	4515.5
<i>Minimum</i>	3765	6501	3062	60	174	231	1869	1542

Table 1: Sample Dataset — Template Size Distribution

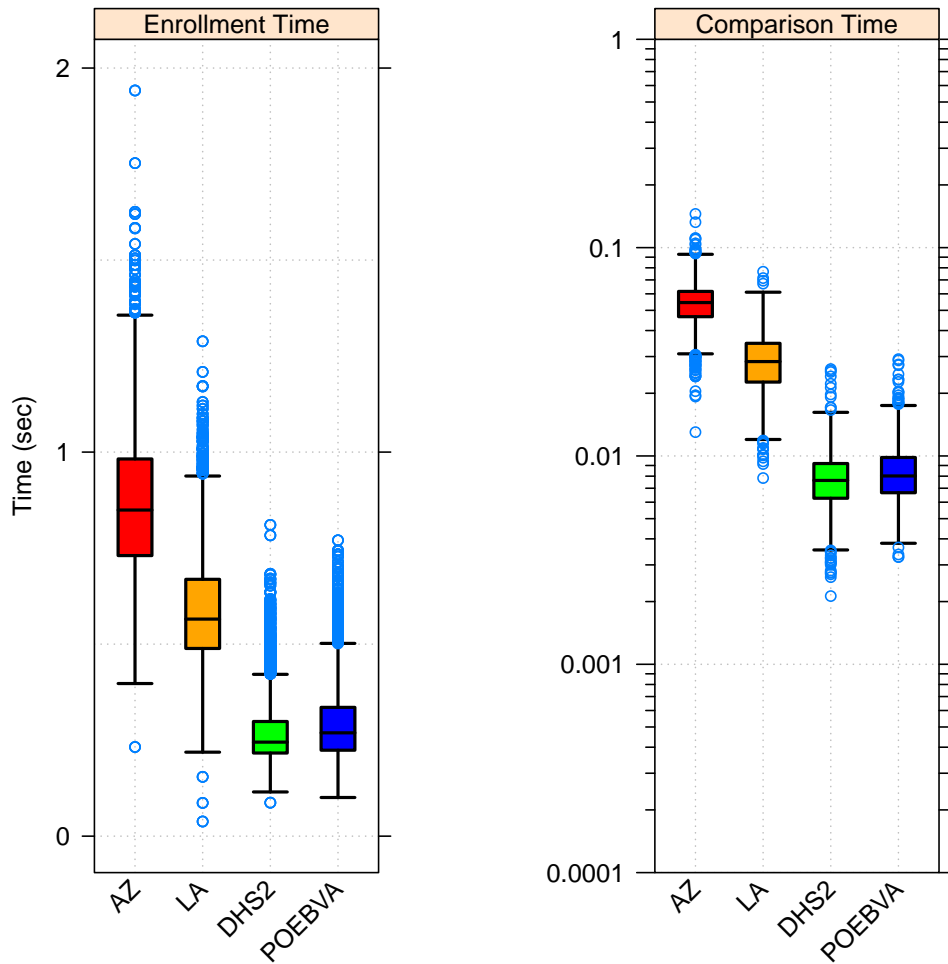


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	1.942	1.289	0.811	0.771
<i>75%</i>	0.982	0.669	0.299	0.335
<i>Median</i>	0.849	0.565	0.245	0.269
<i>25%</i>	0.731	0.489	0.216	0.224
<i>Minimum</i>	0.232	0.038	0.088	0.101

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	0.145	0.077	0.026	0.029
<i>75%</i>	0.062	0.035	0.009	0.010
<i>Median</i>	0.054	0.028	0.008	0.008
<i>25%</i>	0.047	0.023	0.006	0.007
<i>Minimum</i>	0.013	0.008	0.002	0.003

Table 3: Comparison Times (sec)

## 2 Full Evaluation

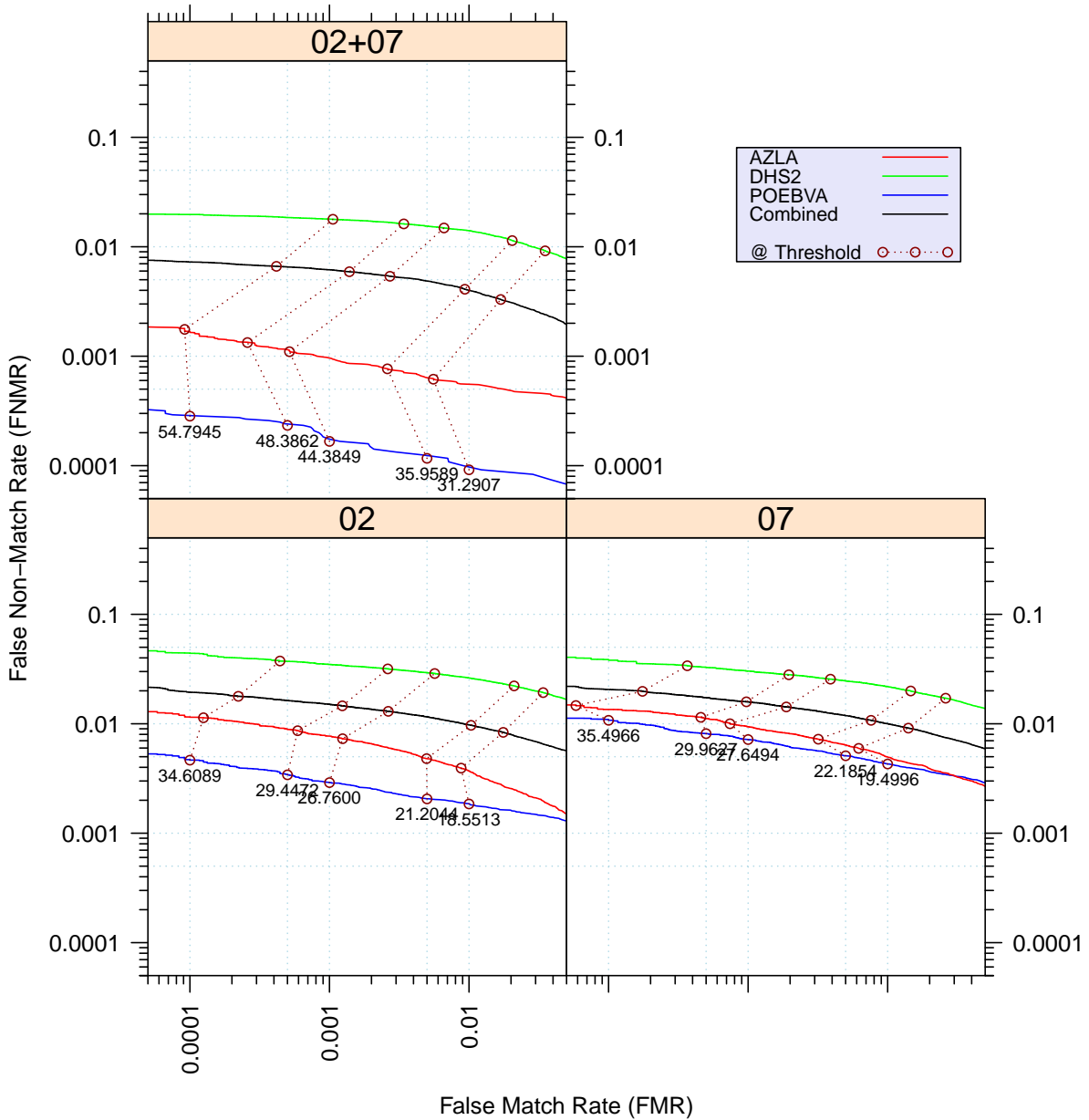


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

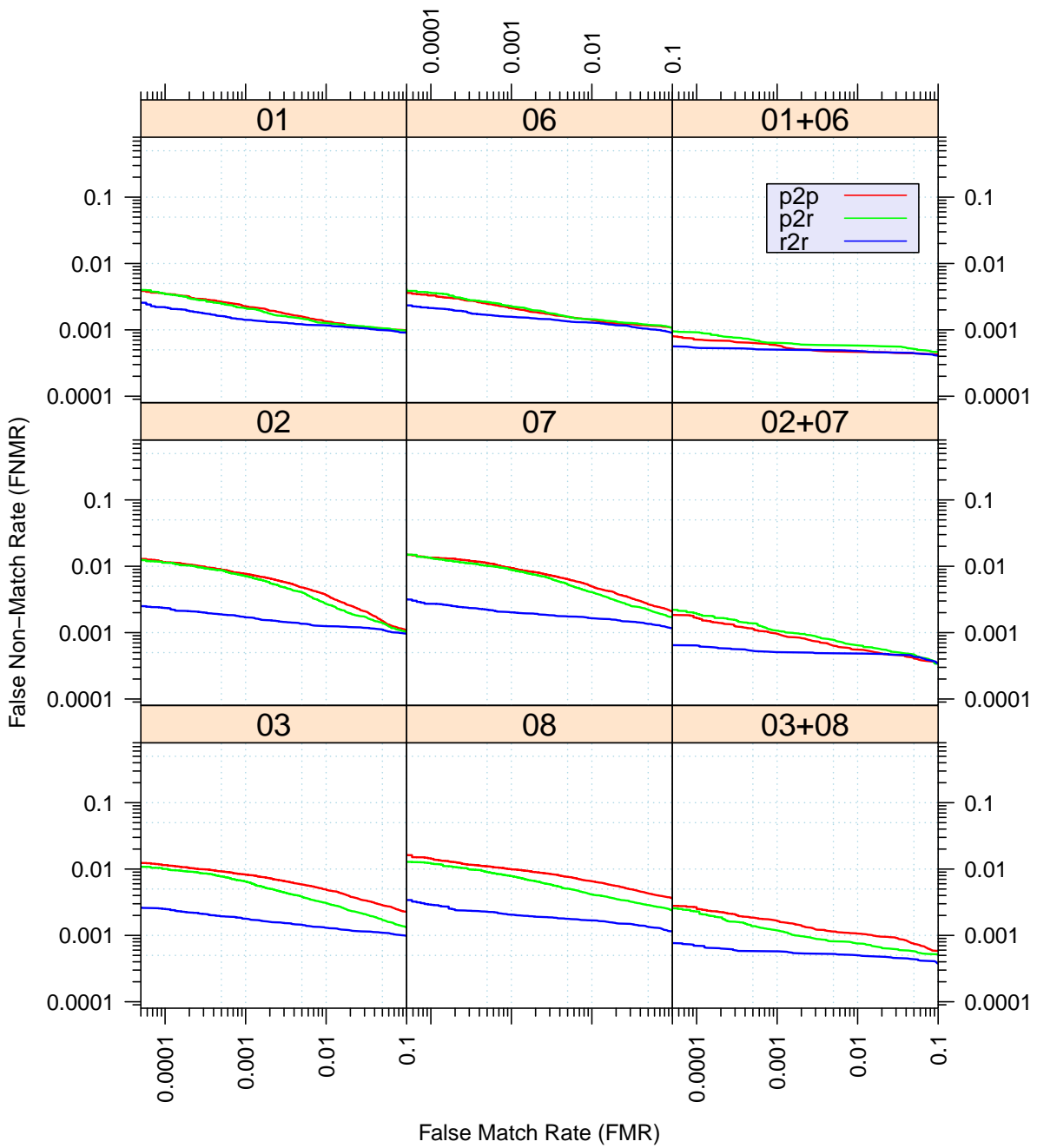


Figure 4: Full Evaluation – DET for all finger positions from AZLA

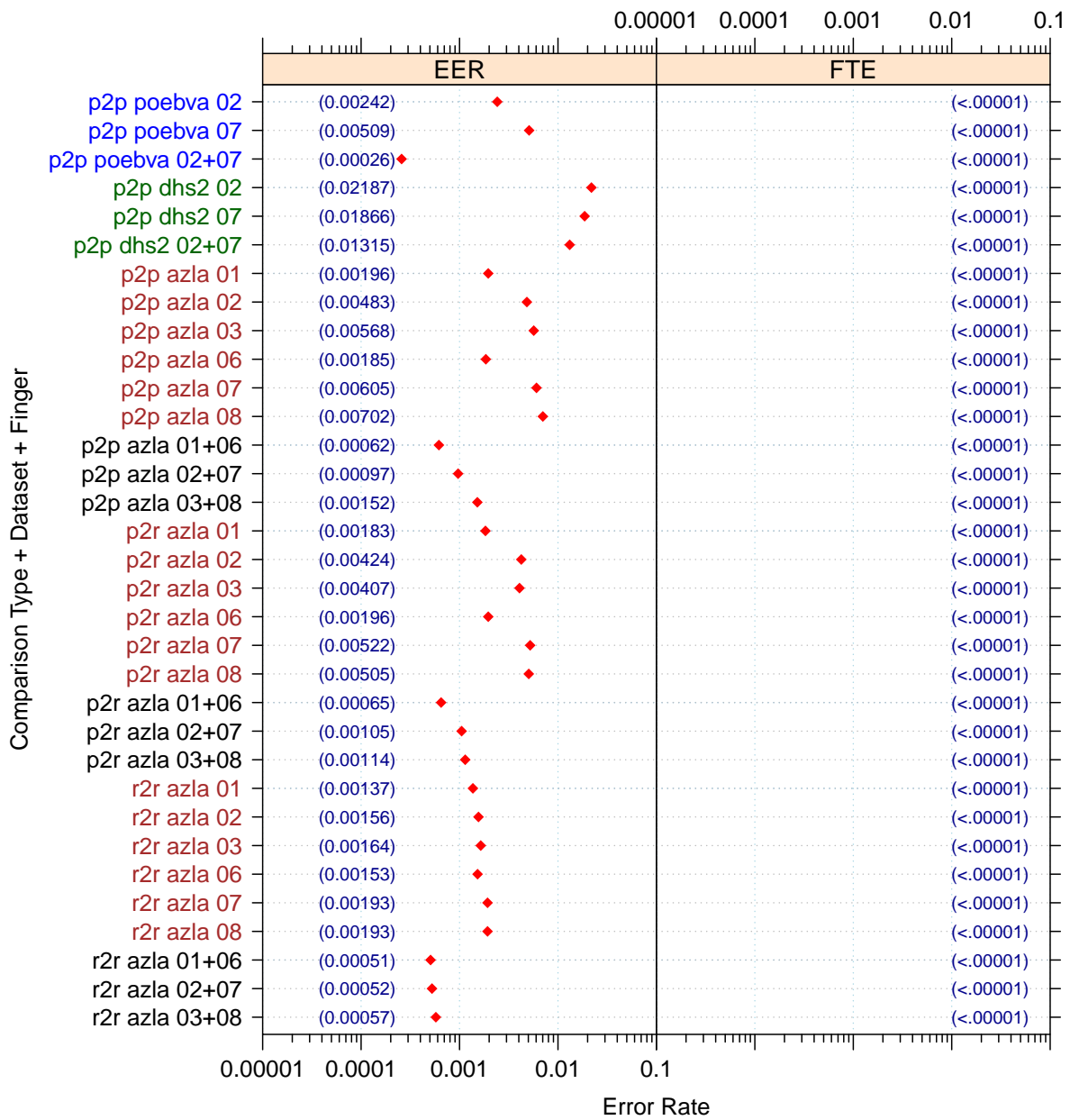


Figure 5: Full Evaluation – EERs and FTEs

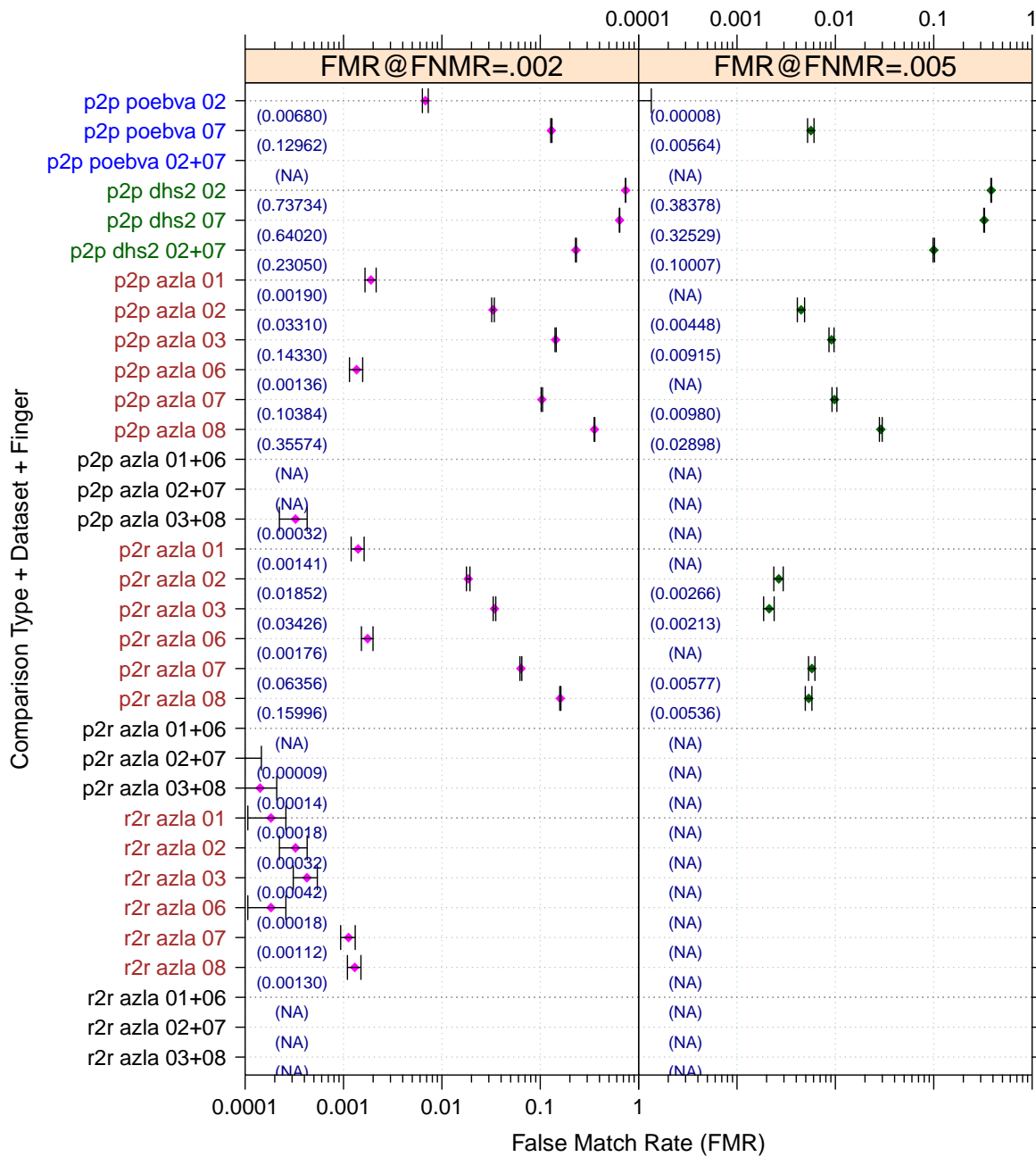


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

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



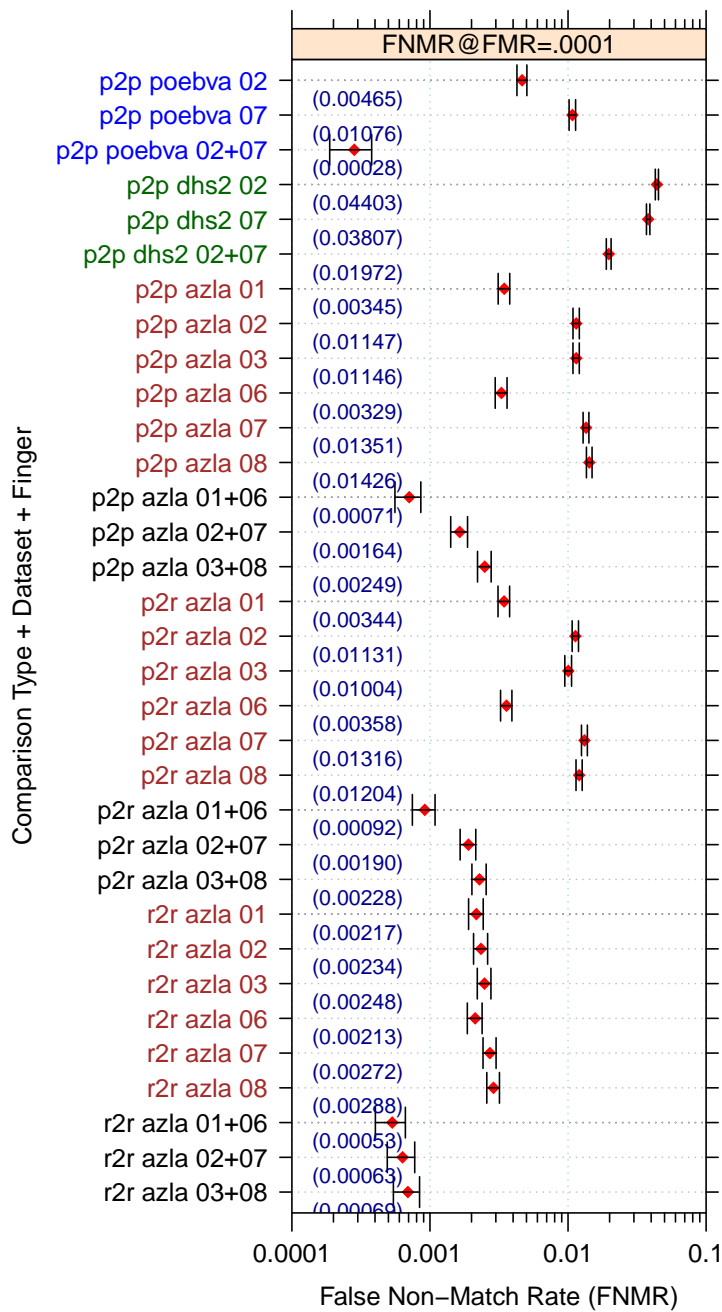


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**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>	0.0020	0.0000
	<i>R Index</i>	0.0048	0.0000
	<i>R Middle</i>	0.0057	0.0000
	<i>L Thumb</i>	0.0019	0.0000
	<i>L Index</i>	0.0060	0.0000
	<i>L Middle</i>	0.0070	0.0000
	<i>R/L Thumb</i>	0.0006	0.0000
	<i>R/L Index</i>	0.0010	0.0000
	<i>R/L Middle</i>	0.0015	0.0000
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0018	0.0000
	<i>R Index</i>	0.0042	0.0000
	<i>R Middle</i>	0.0041	0.0000
	<i>L Thumb</i>	0.0020	0.0000
	<i>L Index</i>	0.0052	0.0000
	<i>L Middle</i>	0.0050	0.0000
	<i>R/L Thumb</i>	0.0006	0.0000
	<i>R/L Index</i>	0.0010	0.0000
	<i>R/L Middle</i>	0.0011	0.0000
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0014	0.0000
	<i>R Index</i>	0.0016	0.0000
	<i>R Middle</i>	0.0016	0.0000
	<i>L Thumb</i>	0.0015	0.0000
	<i>L Index</i>	0.0019	0.0000
	<i>L Middle</i>	0.0019	0.0000
	<i>R/L Thumb</i>	0.0005	0.0000
	<i>R/L Index</i>	0.0005	0.0000
	<i>R/L Middle</i>	0.0006	0.0000

Table 4: EER and FTE — Dataset AZLA

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0219	0.0000	
<i>L Index</i>	0.0187	0.0000	
<i>R/L Index</i>	0.0132	0.0000	

Table 5: EER and FTE — Dataset DHS2

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0024	0.0000	
<i>L Index</i>	0.0051	0.0000	
<i>R/L Index</i>	0.0003	0.0000	

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>	0.0034 ±0.00033	0.0019 ±0.00025	n/a
	<i>R Index</i>	0.0115 ±0.00060	0.0331 ±0.00101	0.0045 ±0.00038
	<i>R Middle</i>	0.0115 ±0.00060	0.1433 ±0.00198	0.0092 ±0.00054
	<i>L Thumb</i>	0.0033 ±0.00032	0.0014 ±0.00021	n/a
	<i>L Index</i>	0.0135 ±0.00065	0.1038 ±0.00173	0.0098 ±0.00056
	<i>L Middle</i>	0.0143 ±0.00067	0.3557 ±0.00271	0.0290 ±0.00095
	<i>R/L Thumb</i>	0.0007 ±0.00015	n/a	n/a
	<i>R/L Index</i>	0.0016 ±0.00023	n/a	n/a
	<i>R/L Middle</i>	0.0025 ±0.00028	0.0003 ±0.00010	n/a
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0034 ±0.00033	0.0014 ±0.00021	n/a
	<i>R Index</i>	0.0113 ±0.00060	0.0185 ±0.00076	0.0027 ±0.00029
	<i>R Middle</i>	0.0100 ±0.00056	0.0343 ±0.00103	0.0021 ±0.00026
	<i>L Thumb</i>	0.0036 ±0.00034	0.0018 ±0.00024	n/a
	<i>L Index</i>	0.0132 ±0.00064	0.0636 ±0.00138	0.0058 ±0.00043
	<i>L Middle</i>	0.0120 ±0.00062	0.1600 ±0.00207	0.0054 ±0.00041
	<i>R/L Thumb</i>	0.0009 ±0.00017	n/a	n/a
	<i>R/L Index</i>	0.0019 ±0.00025	0.0001 ±0.00005	n/a
	<i>R/L Middle</i>	0.0023 ±0.00027	0.0001 ±0.00007	n/a
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0022 ±0.00026	0.0002 ±0.00008	n/a
	<i>R Index</i>	0.0023 ±0.00027	0.0003 ±0.00010	n/a
	<i>R Middle</i>	0.0025 ±0.00028	0.0004 ±0.00012	n/a
	<i>L Thumb</i>	0.0021 ±0.00026	0.0002 ±0.00008	n/a
	<i>L Index</i>	0.0027 ±0.00030	0.0011 ±0.00019	n/a
	<i>L Middle</i>	0.0029 ±0.00030	0.0013 ±0.00020	n/a
	<i>R/L Thumb</i>	0.0005 ±0.00013	n/a	n/a
	<i>R/L Index</i>	0.0006 ±0.00014	n/a	n/a
	<i>R/L Middle</i>	0.0007 ±0.00015	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>	0.0440 ±0.00116	0.7373 ±0.00249	0.3838 ±0.00275
<i>L Index</i>	0.0381 ±0.00108	0.6402 ±0.00272	0.3253 ±0.00265
<i>R/L Index</i>	0.0197 ±0.00079	0.2305 ±0.00238	0.1001 ±0.00170

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>	0.0046 ±0.00038	0.0068 ±0.00047	n/a
<i>L Index</i>	0.0108 ±0.00058	0.1296 ±0.00190	0.0056 ±0.00042
<i>R/L Index</i>	0.0003 ±0.00010	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

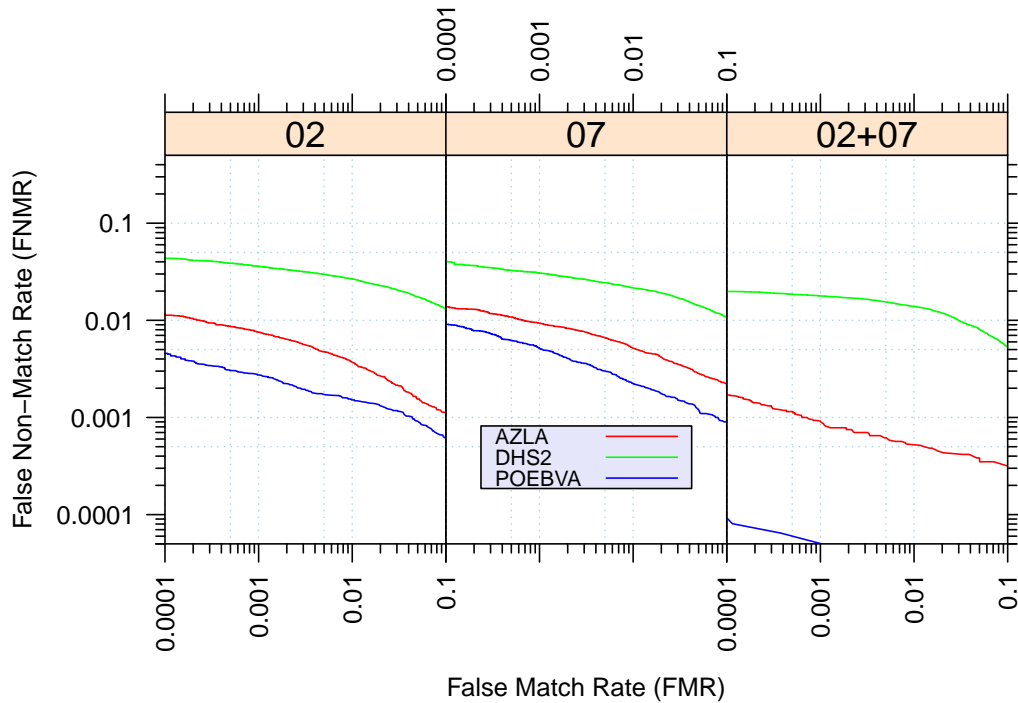


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
<b>AZLA</b>	<i>R Index</i>	n/a	0.0113	0.0043
	<i>L Index</i>	0.0062	0.0138	0.0110
	<i>R/L Index</i>	0.0009	0.0017	n/a
<b>DHS2</b>	<i>R Index</i>	0.0223	0.0435	0.3971
	<i>L Index</i>	0.0193	0.0401	0.3675
	<i>R/L Index</i>	0.0132	0.0198	0.1077
<b>POEBVA</b>	<i>R Index</i>	0.0022	0.0045	n/a
	<i>L Index</i>	0.0035	0.0090	0.0011
	<i>R/L Index</i>	n/a	0.0001	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.