

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

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# 1 1K Sample Evaluation

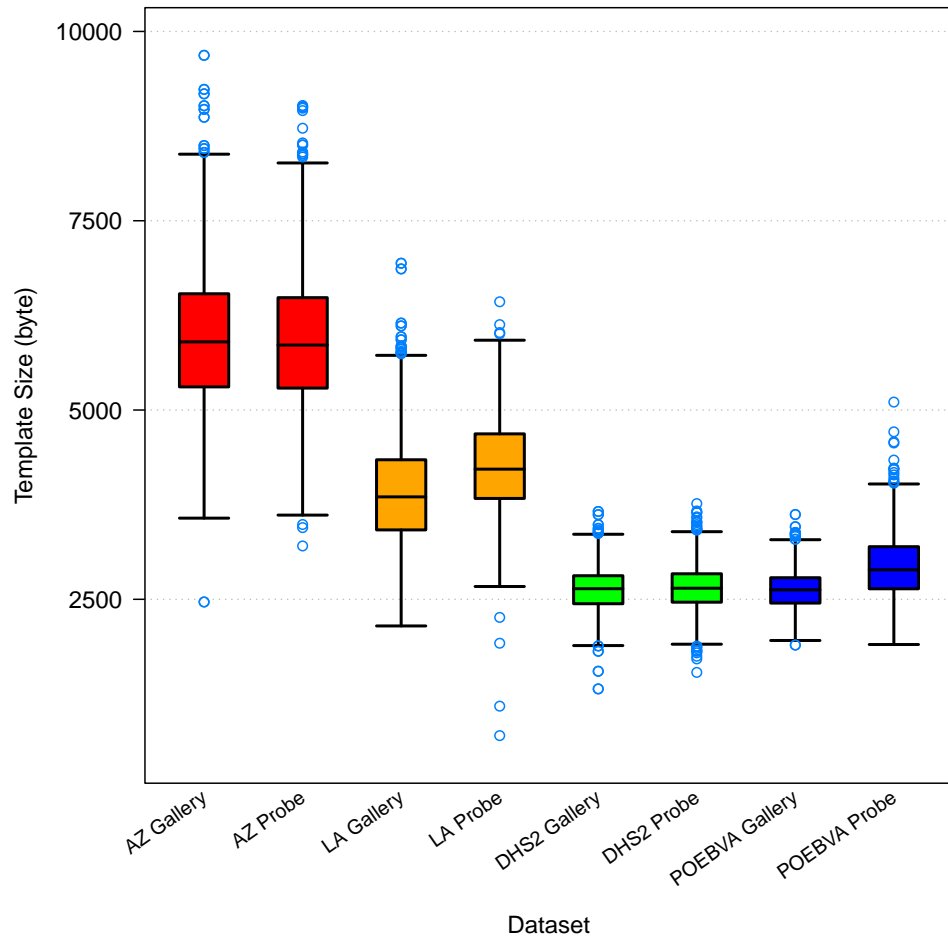


Figure 1: 1K Sample Evaluation – Template Size Distribution

	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>	9685	9022	6939	6430	3660	3764	3620	5105
75%	6535.5	6484	4343	4685	2811.5	2837	2785	3195
<i>Median</i>	5900	5858	3853	4219	2640	2646.5	2625	2889.5
25%	5305.5	5289.5	3416.5	3832	2441.5	2462	2450	2639
<i>Minimum</i>	2465	3205	2148	700	1317	1535	1896	1903

Table 1: Sample Dataset — Template Size Distribution

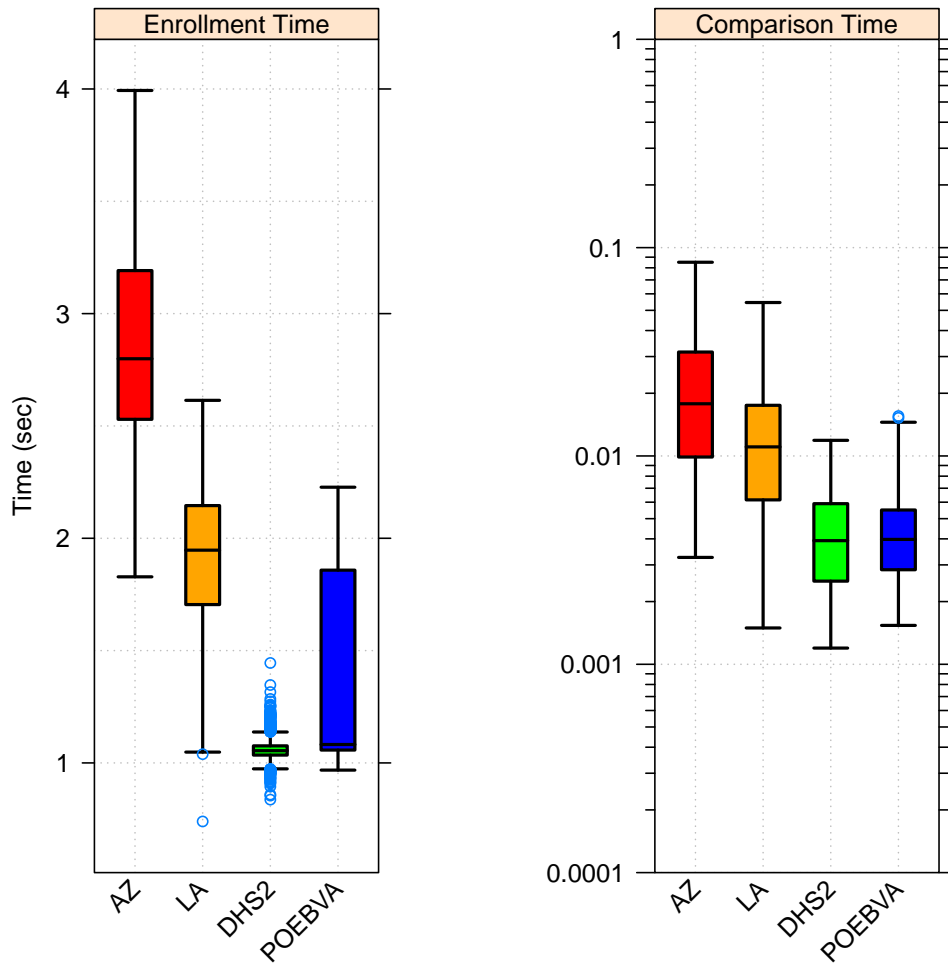


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	3.993	2.614	1.445	2.227
<i>75%</i>	3.192	2.145	1.076	1.858
<i>Median</i>	2.799	1.947	1.054	1.082
<i>25%</i>	2.529	1.705	1.035	1.057
<i>Minimum</i>	1.828	0.740	0.837	0.968

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	0.085	0.055	0.012	0.016
<i>75%</i>	0.032	0.018	0.006	0.006
<i>Median</i>	0.018	0.011	0.004	0.004
<i>25%</i>	0.010	0.006	0.003	0.003
<i>Minimum</i>	0.003	0.001	0.001	0.002

Table 3: Comparison Times (sec)

## 2 Full Evaluation

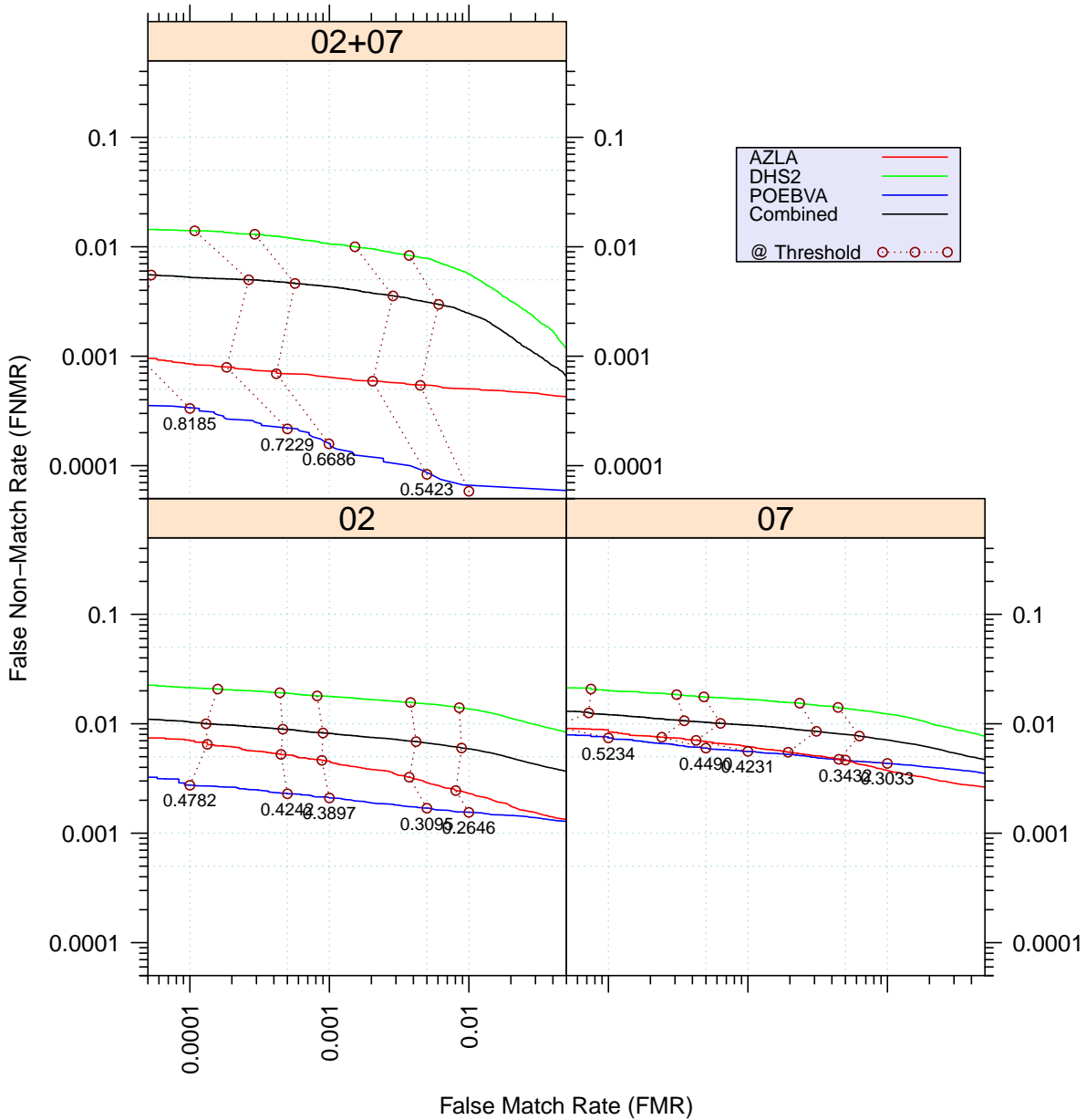


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

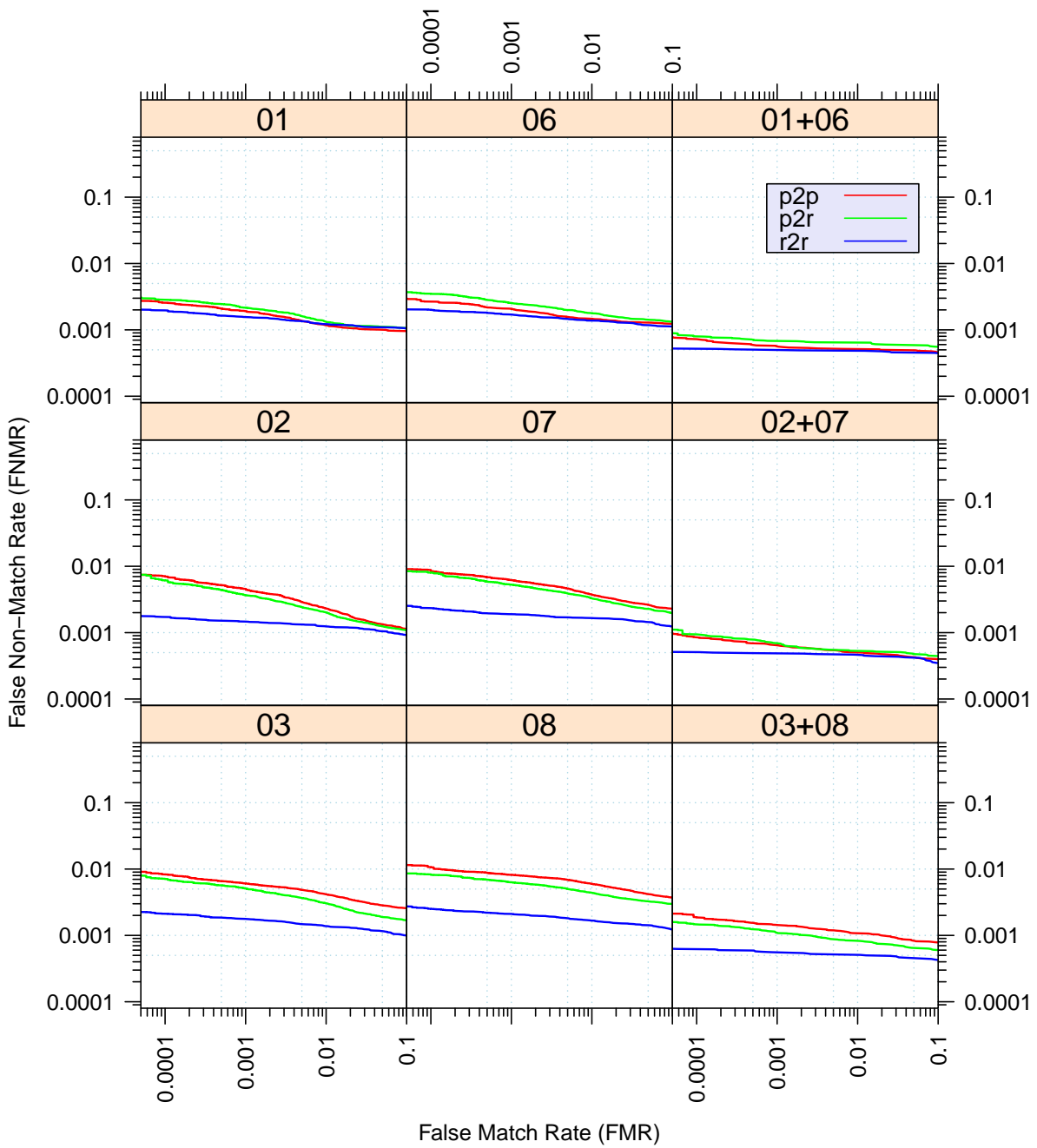


Figure 4: Full Evaluation – DET for all finger positions from AZLA

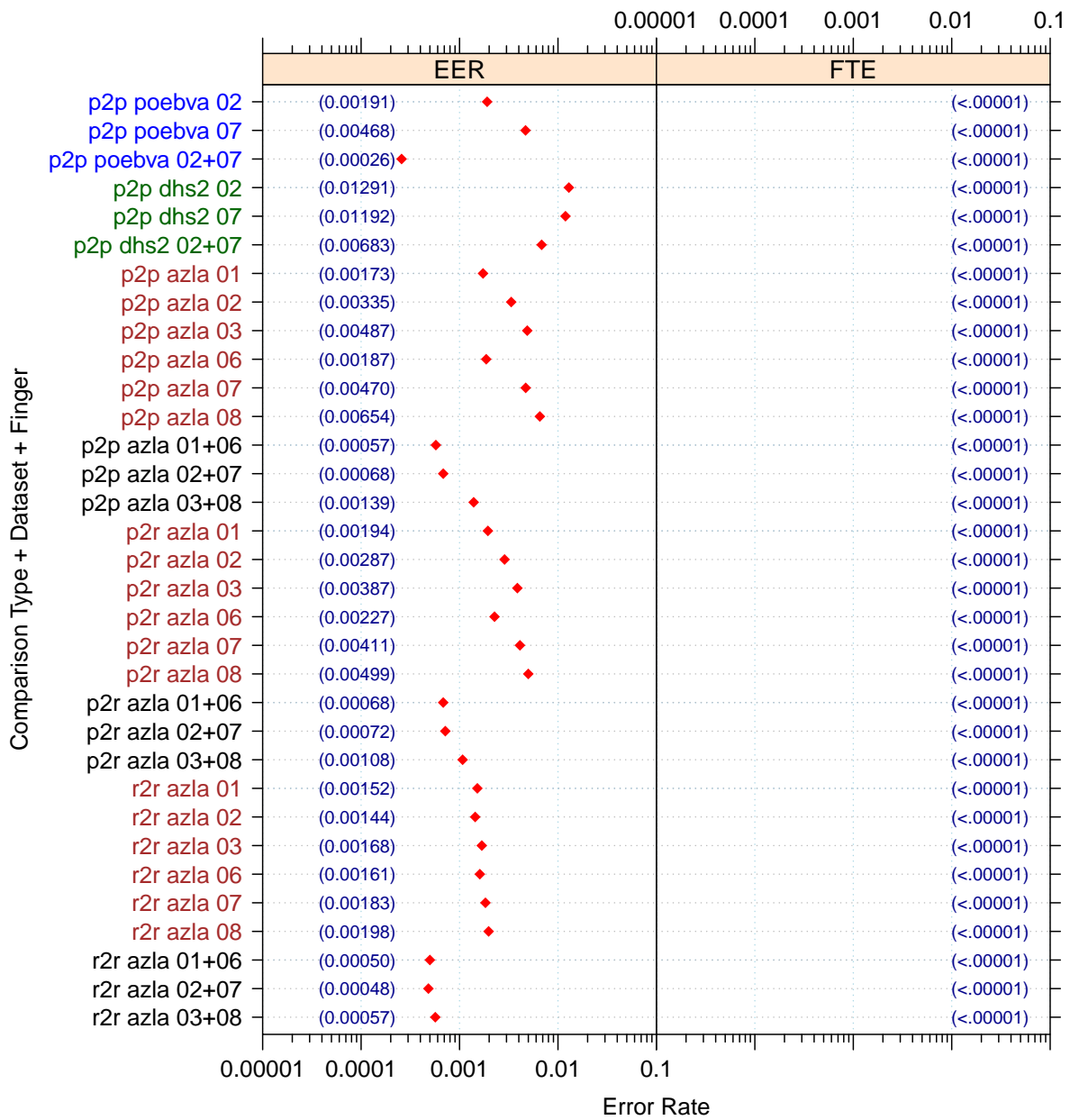


Figure 5: Full Evaluation – EERs and FTEs

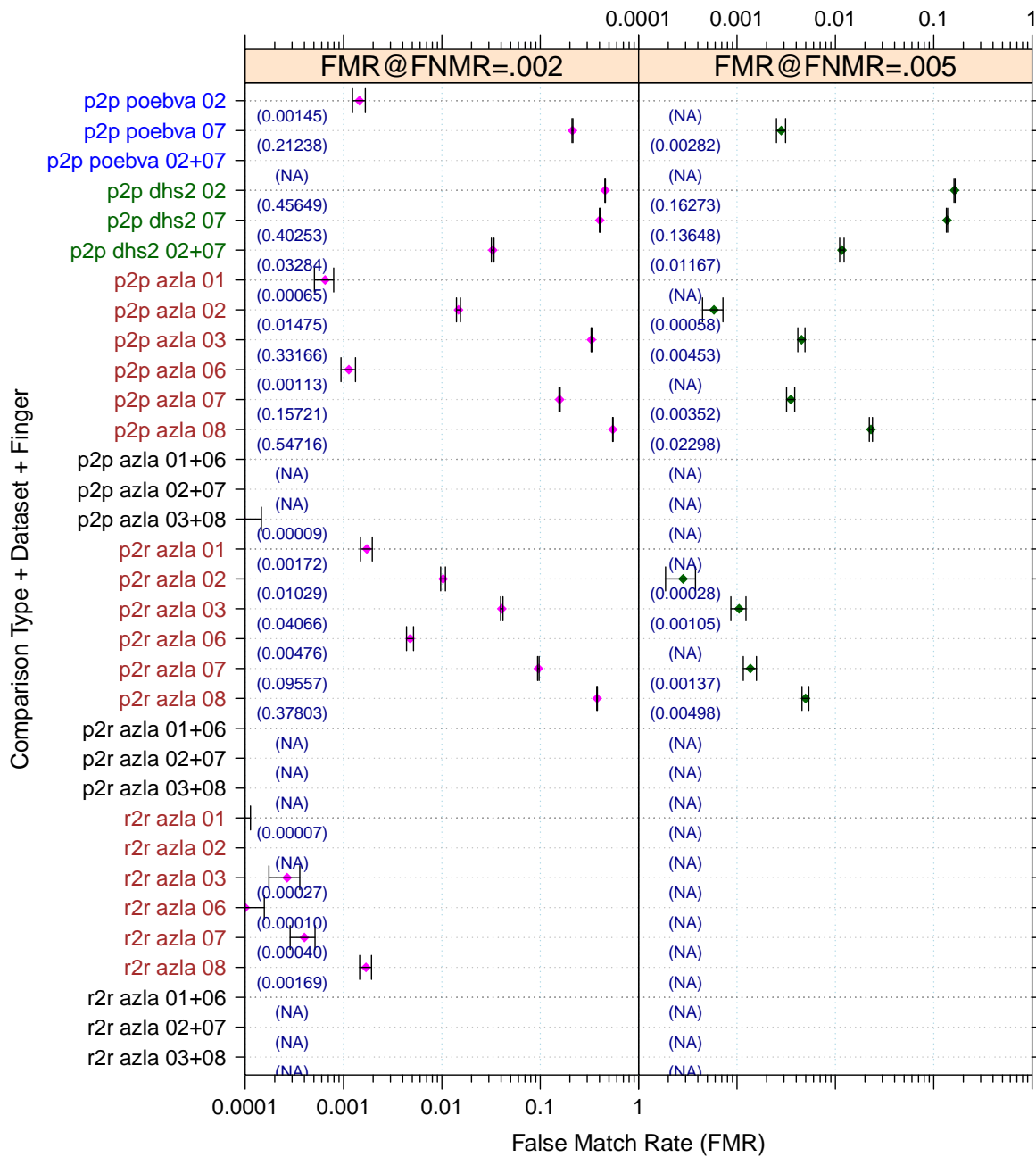


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

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



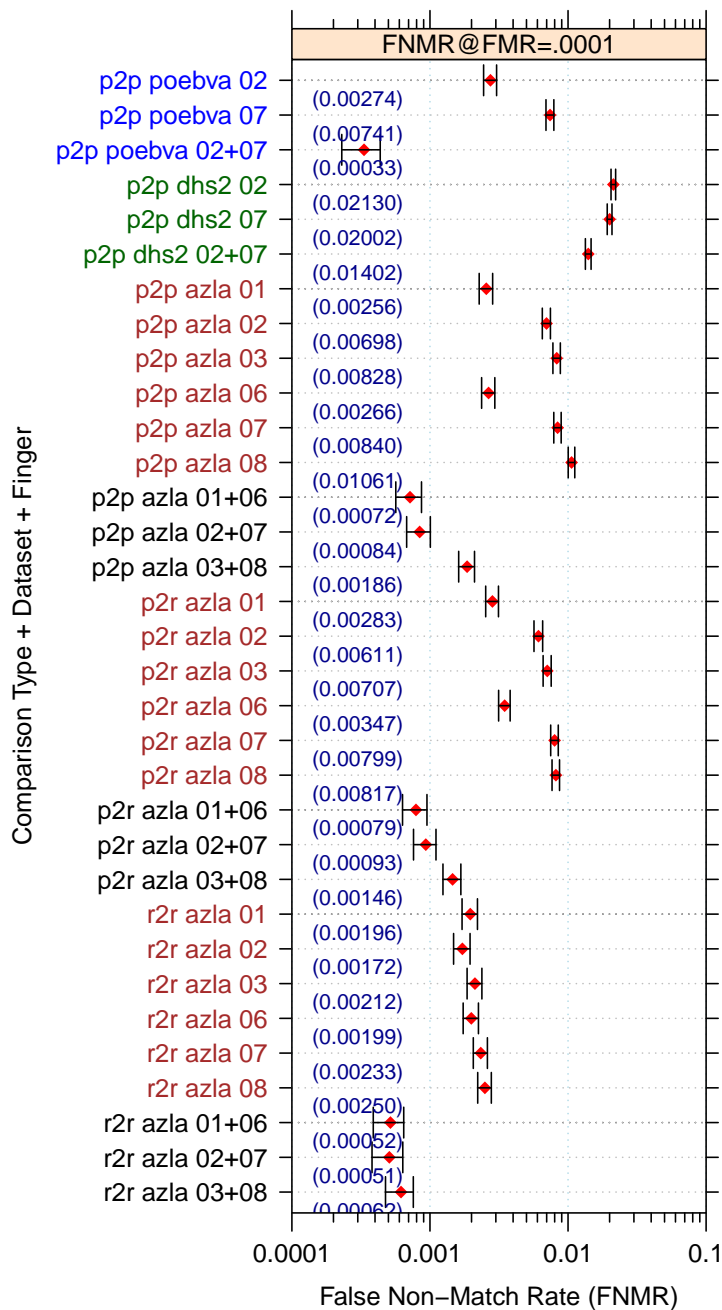


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**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>	0.0017	0.0000
	<i>R Index</i>	0.0034	0.0000
	<i>R Middle</i>	0.0049	0.0000
	<i>L Thumb</i>	0.0019	0.0000
	<i>L Index</i>	0.0047	0.0000
	<i>L Middle</i>	0.0065	0.0000
	<i>R/L Thumb</i>	0.0006	0.0000
	<i>R/L Index</i>	0.0007	0.0000
	<i>R/L Middle</i>	0.0014	0.0000
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0019	0.0000
	<i>R Index</i>	0.0029	0.0000
	<i>R Middle</i>	0.0039	0.0000
	<i>L Thumb</i>	0.0023	0.0000
	<i>L Index</i>	0.0041	0.0000
	<i>L Middle</i>	0.0050	0.0000
	<i>R/L Thumb</i>	0.0007	0.0000
	<i>R/L Index</i>	0.0007	0.0000
	<i>R/L Middle</i>	0.0011	0.0000
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0015	0.0000
	<i>R Index</i>	0.0014	0.0000
	<i>R Middle</i>	0.0017	0.0000
	<i>L Thumb</i>	0.0016	0.0000
	<i>L Index</i>	0.0018	0.0000
	<i>L Middle</i>	0.0020	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>	0.0129	0.0000	
<i>L Index</i>	0.0119	0.0000	
<i>R/L Index</i>	0.0068	0.0000	

Table 5: EER and FTE — Dataset DHS2

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0019	0.0000	
<i>L Index</i>	0.0047	0.0000	
<i>R/L Index</i>	0.0003	0.0000	

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>	0.0026 ±0.00029	0.0006 ±0.00014	n/a
	<i>R Index</i>	0.0070 ±0.00047	0.0147 ±0.00068	0.0006 ±0.00014
	<i>R Middle</i>	0.0083 ±0.00051	0.3317 ±0.00266	0.0045 ±0.00038
	<i>L Thumb</i>	0.0027 ±0.00029	0.0011 ±0.00019	n/a
	<i>L Index</i>	0.0084 ±0.00052	0.1572 ±0.00206	0.0035 ±0.00034
	<i>L Middle</i>	0.0106 ±0.00058	0.5472 ±0.00282	0.0230 ±0.00085
	<i>R/L Thumb</i>	0.0007 ±0.00015	n/a	n/a
	<i>R/L Index</i>	0.0008 ±0.00016	n/a	n/a
	<i>R/L Middle</i>	0.0019 ±0.00024	0.0001 ±0.00005	n/a
Plain to Rolled	<i>R Thumb</i>	0.0028 ±0.00030	0.0017 ±0.00023	n/a
	<i>R Index</i>	0.0061 ±0.00044	0.0103 ±0.00057	0.0003 ±0.00010
	<i>R Middle</i>	0.0071 ±0.00047	0.0407 ±0.00112	0.0010 ±0.00018
	<i>L Thumb</i>	0.0035 ±0.00033	0.0048 ±0.00039	n/a
	<i>L Index</i>	0.0080 ±0.00050	0.0956 ±0.00166	0.0014 ±0.00021
	<i>L Middle</i>	0.0082 ±0.00051	0.3780 ±0.00274	0.0050 ±0.00040
	<i>R/L Thumb</i>	0.0008 ±0.00016	n/a	n/a
	<i>R/L Index</i>	0.0009 ±0.00017	n/a	n/a
	<i>R/L Middle</i>	0.0015 ±0.00022	n/a	n/a
Rolled to Rolled	<i>R Thumb</i>	0.0020 ±0.00025	n/a	n/a
	<i>R Index</i>	0.0017 ±0.00023	n/a	n/a
	<i>R Middle</i>	0.0021 ±0.00026	0.0003 ±0.00009	n/a
	<i>L Thumb</i>	0.0020 ±0.00025	0.0001 ±0.00006	n/a
	<i>L Index</i>	0.0023 ±0.00027	0.0004 ±0.00011	n/a
	<i>L Middle</i>	0.0025 ±0.00028	0.0017 ±0.00023	n/a
	<i>R/L Thumb</i>	0.0005 ±0.00013	n/a	n/a
	<i>R/L Index</i>	0.0005 ±0.00013	n/a	n/a
	<i>R/L Middle</i>	0.0006 ±0.00014	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>	0.0213 ±0.00082	0.4565 ±0.00282	0.1627 ±0.00209
<i>L Index</i>	0.0200 ±0.00079	0.4025 ±0.00278	0.1365 ±0.00194
<i>R/L Index</i>	0.0140 ±0.00067	0.0328 ±0.00101	0.0117 ±0.00061

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>	0.0027 ±0.00030	0.0014 ±0.00021	n/a
<i>L Index</i>	0.0074 ±0.00049	0.2124 ±0.00231	0.0028 ±0.00030
<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

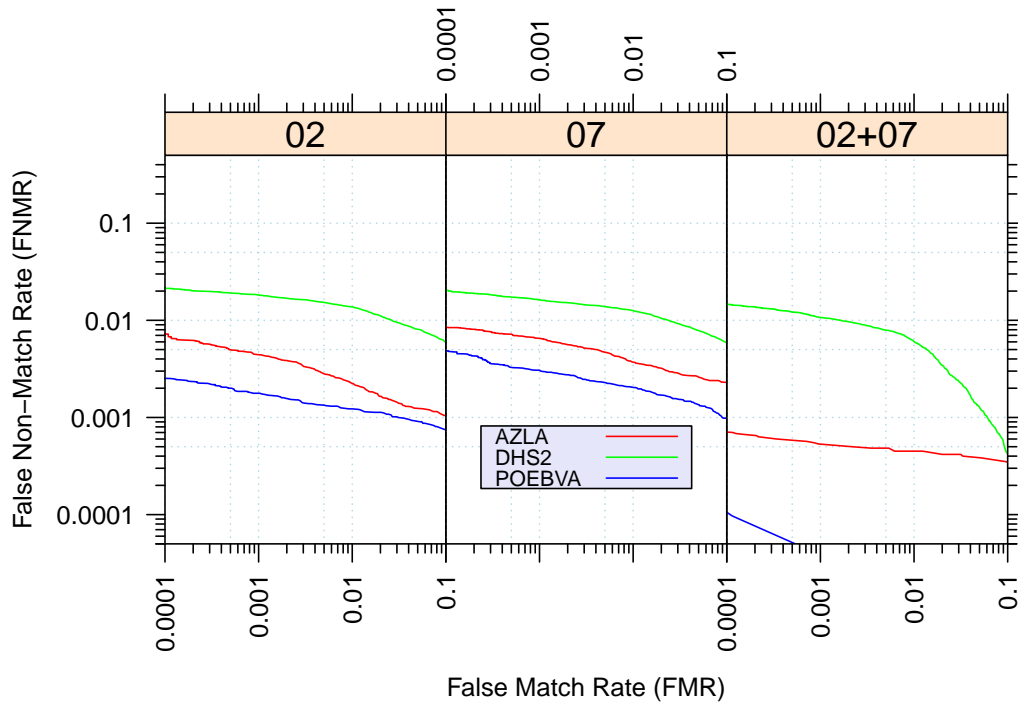


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
<b>AZLA</b>	<i>R Index</i>	0.0033	0.0072	0.0005
	<i>L Index</i>	0.0047	0.0084	0.0040
	<i>R/L Index</i>	0.0006	0.0007	n/a
<b>DHS2</b>	<i>R Index</i>	0.0128	0.0213	0.1432
	<i>L Index</i>	0.0120	0.0203	0.1343
	<i>R/L Index</i>	0.0072	0.0146	0.0138
<b>POEBVA</b>	<i>R Index</i>	0.0016	0.0025	n/a
	<i>L Index</i>	0.0026	0.0048	n/a
	<i>R/L Index</i>	0.0001	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.