

# Participant Results

Proprietary Fingerprint Template Evaluation II (PFT-II)

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# Contents

1	1K Sample Evaluation	3
2	Full Evaluation	5
3	Original PFT Dataset	13

## List of Figures

1	1K Sample Evaluation – Template Size Distribution	3
2	1K Sample Evaluation – Enrollment and Comparison Timing	4
3	Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index	5
4	Full Evaluation – DET for all finger positions from AZLA	6
5	Full Evaluation – EERs and FTEs	7
6	Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals	8
7	Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals	9
8	Original PFT Dataset – DET	13

## List of Tables

1	Sample Dataset — Template Size Distribution	3
2	Enrollment Times (sec)	4
3	Comparison Times (sec)	4
4	EER and FTE — Dataset AZLA	10
5	EER and FTE — Dataset DHS2	10
6	EER and FTE — Dataset POEBVA	10
7	Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset AZLA	11
8	Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset DHS2	12
9	Details for FNMR@FMR = 0.0001 and FMR@FNMR = (0.002, 0.005) — Dataset POEBVA	12
10	Details for EER, FNMR@FMR = 0.0001, and FMR@FNMR = 0.005 — Original PFT Dataset	13

# 1 1K Sample Evaluation

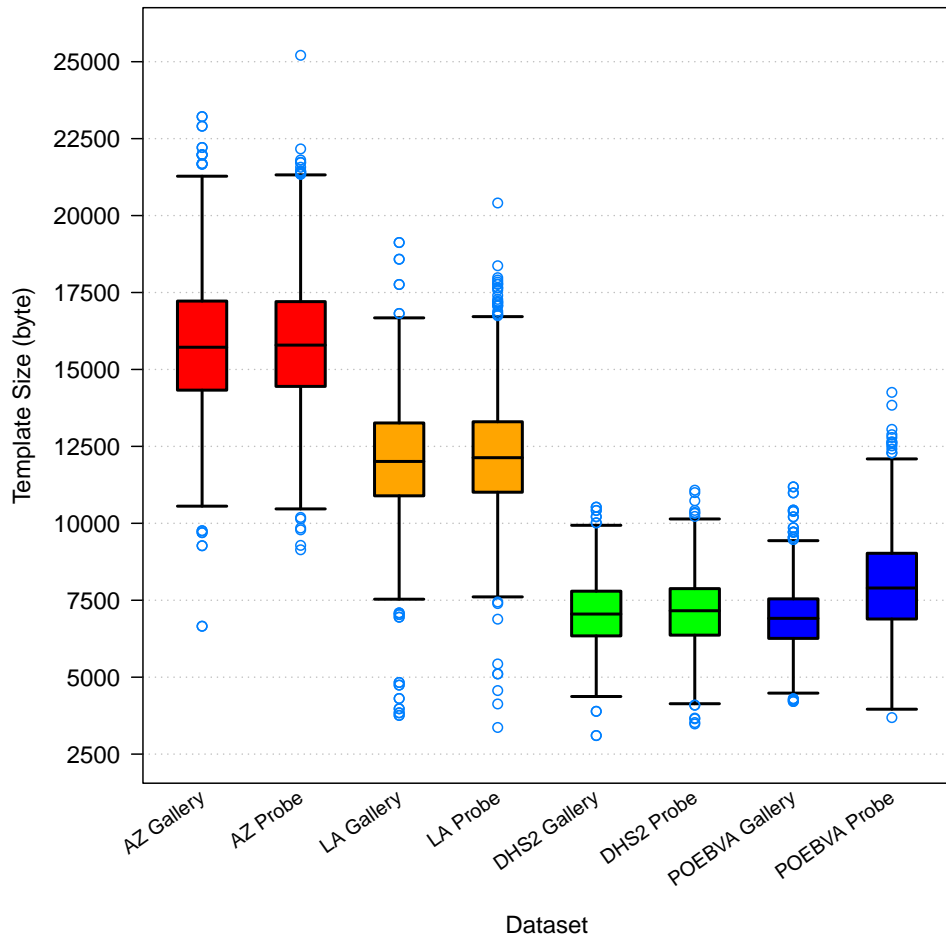


Figure 1: 1K Sample Evaluation – Template Size Distribution

	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>	23215	25208	19123	20408	10524	11076	11183	14255
75%	17222	17203.5	13261	13299.5	7794	7877.5	7545	9026
<i>Median</i>	15721	15790.5	12010	12132.5	7051.5	7158.5	6911.5	7897.5
25%	14327	14449	10893	11010.5	6341.5	6365.5	6260.5	6890.5
<i>Minimum</i>	6656	9140	3758	3365	3102	3479	4209	3686

Table 1: Sample Dataset — Template Size Distribution

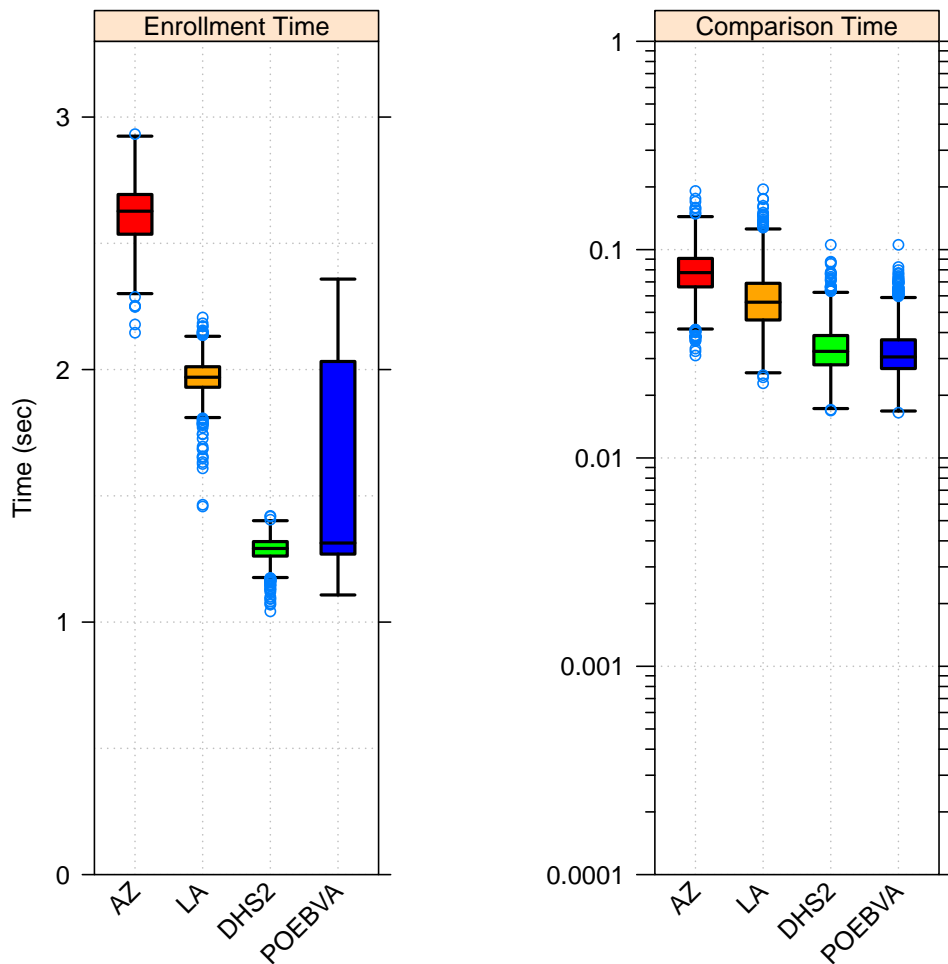


Figure 2: 1K Sample Evaluation – Enrollment and Comparison Timing

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	2.932	2.206	1.421	2.358
<i>75%</i>	2.693	2.011	1.319	2.032
<i>Median</i>	2.627	1.970	1.292	1.313
<i>25%</i>	2.536	1.930	1.261	1.269
<i>Minimum</i>	2.146	1.458	1.042	1.107

Table 2: Enrollment Times (sec)

	AZ	LA	DHS2	POEBVA
<i>Maximum</i>	0.191	0.195	0.105	0.105
<i>75%</i>	0.091	0.069	0.039	0.037
<i>Median</i>	0.078	0.056	0.032	0.031
<i>25%</i>	0.066	0.046	0.028	0.027
<i>Minimum</i>	0.031	0.023	0.017	0.016

Table 3: Comparison Times (sec)

## 2 Full Evaluation

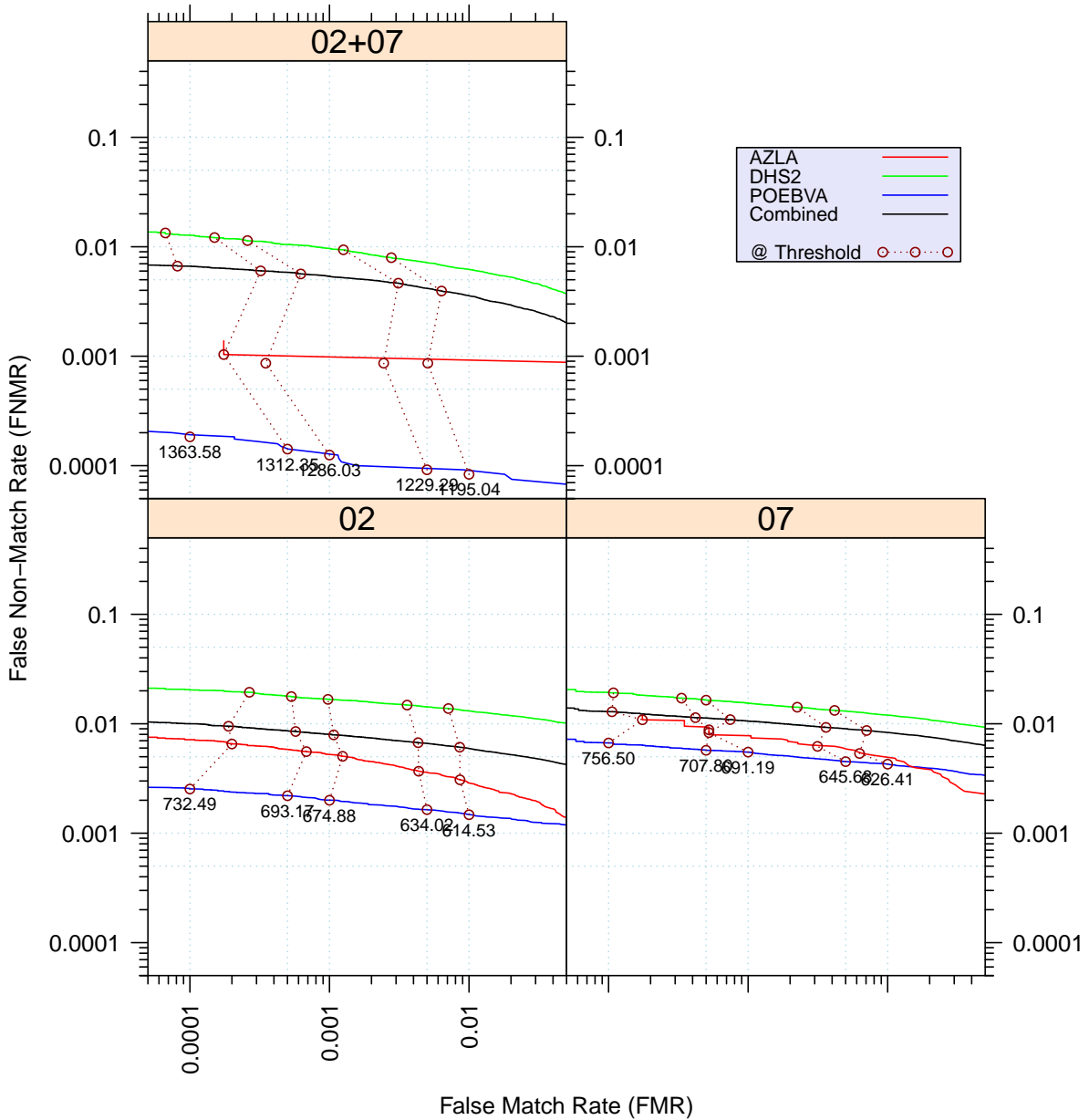


Figure 3: Full Evaluation – DET for POEBVA, DHS2, AZLA, and combined from R Index, L Index, and R/L Index

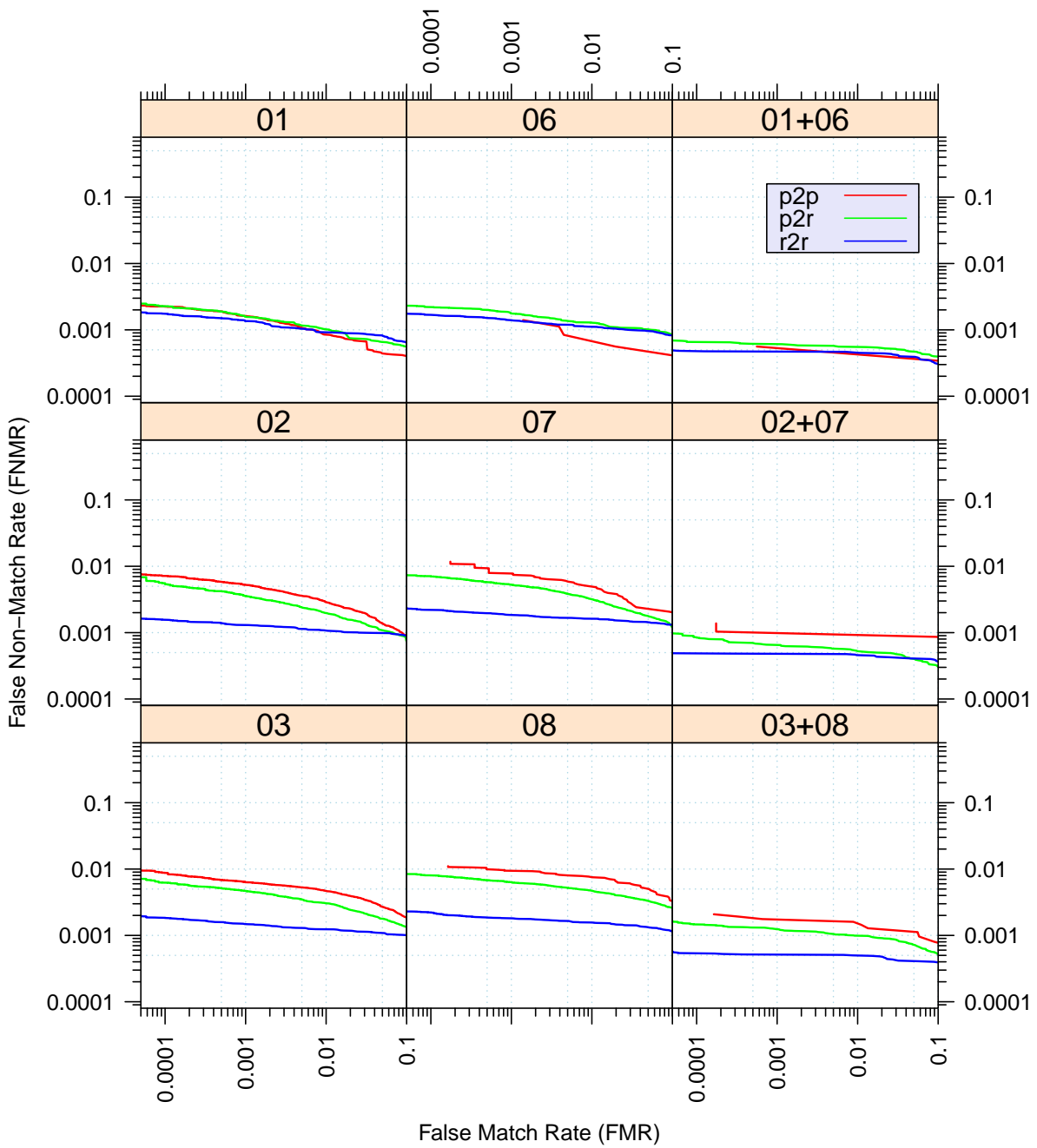


Figure 4: Full Evaluation – DET for all finger positions from AZLA

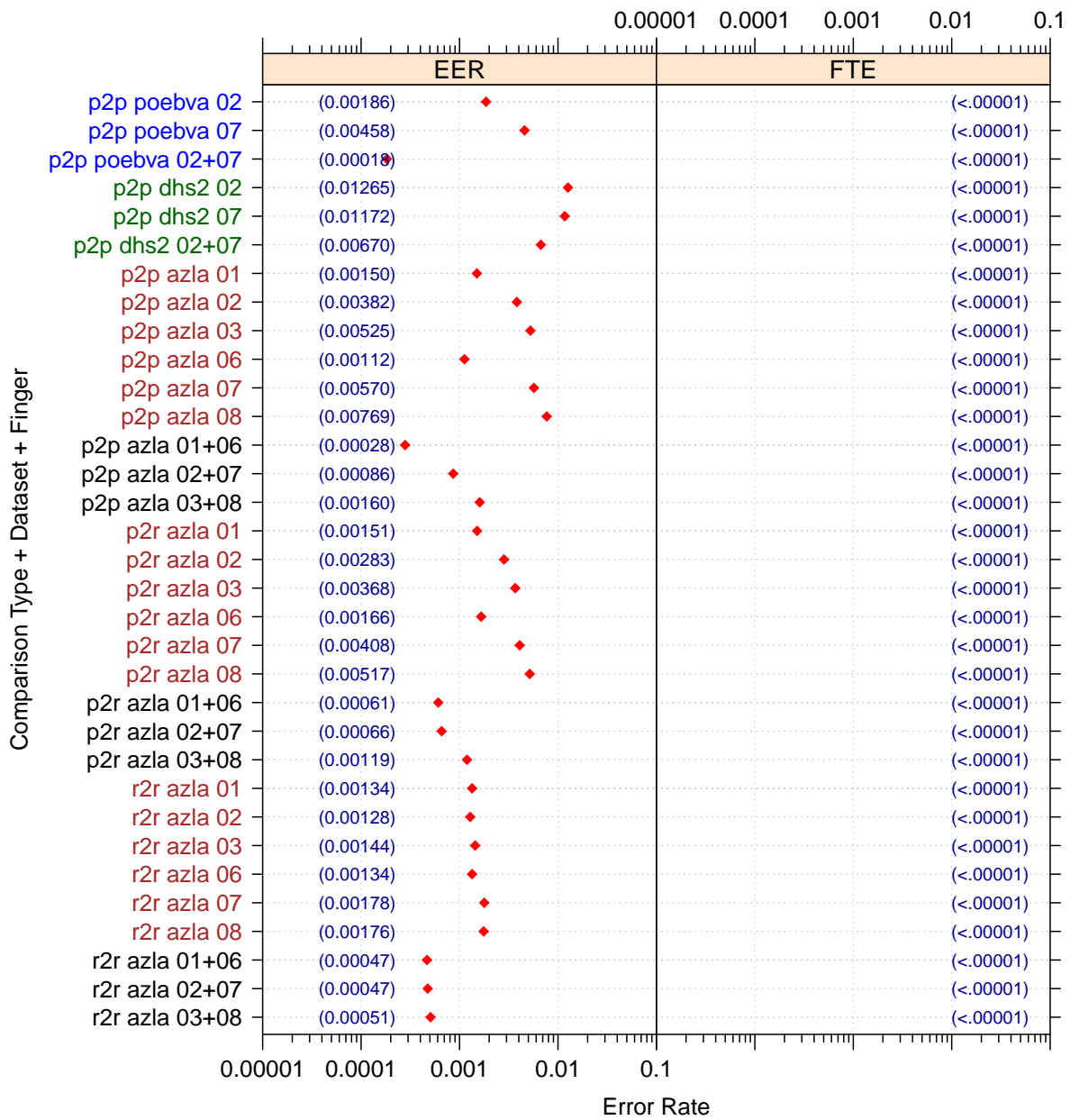


Figure 5: Full Evaluation – EERs and FTEs

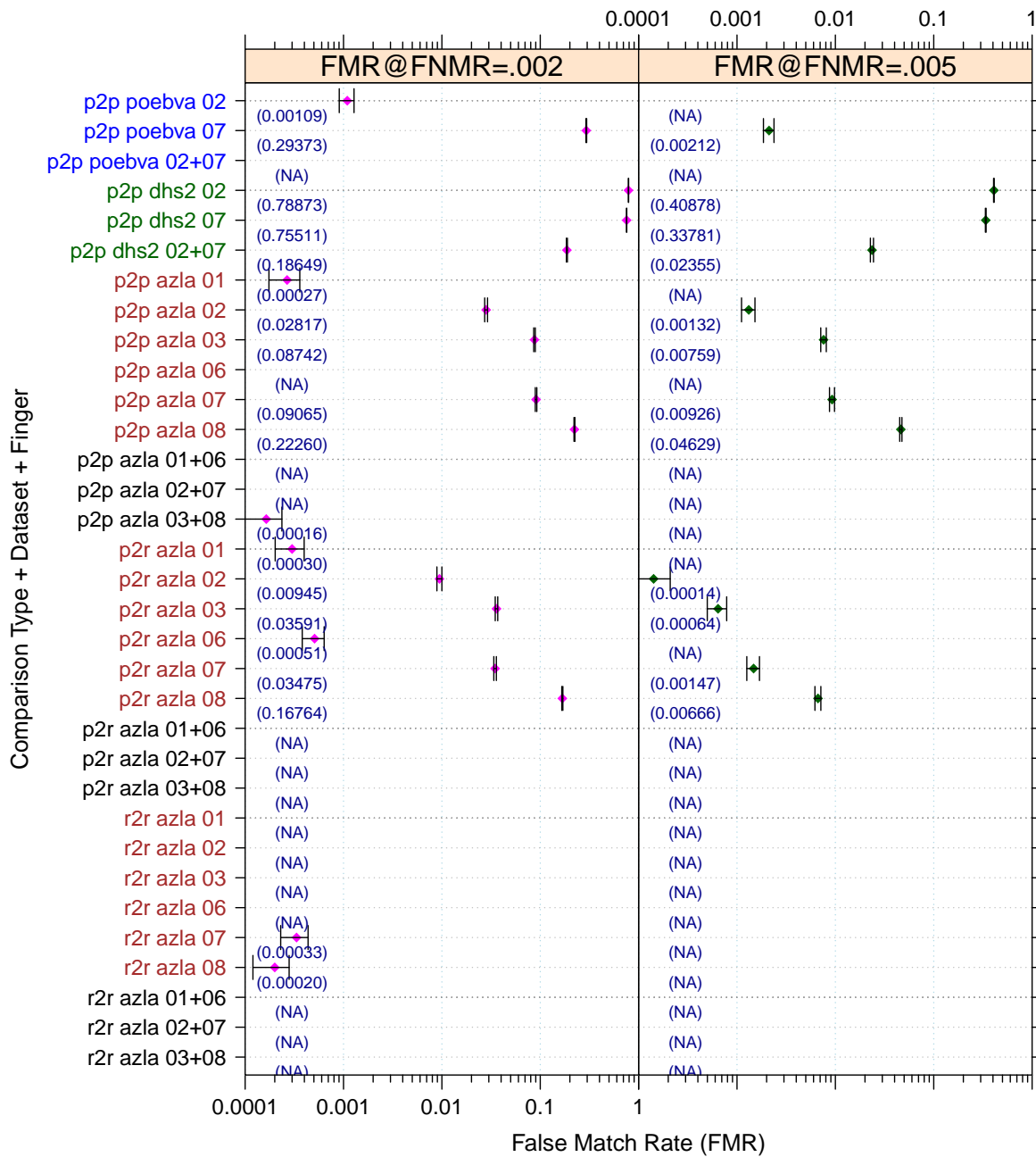


Figure 6: Full Evaluation – FMR@FNMR = (0.002, 0.005) and 95% Confidence Intervals

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



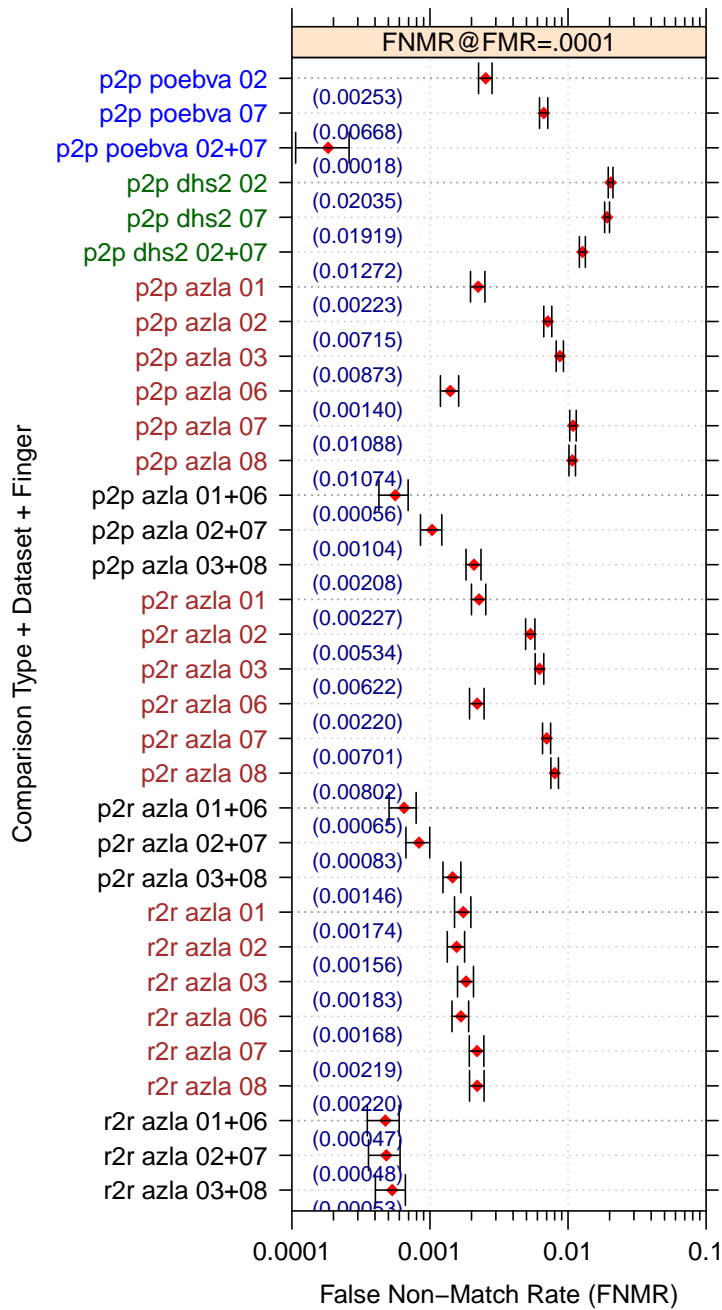


Figure 7: Full Evaluation – FNMR@FMR = 0.0001 and 95% Confidence Intervals

**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>	0.0015	0.0000
	<i>R Index</i>	0.0038	0.0000
	<i>R Middle</i>	0.0053	0.0000
	<i>L Thumb</i>	0.0011	0.0000
	<i>L Index</i>	0.0057	0.0000
	<i>L Middle</i>	0.0077	0.0000
	<i>R/L Thumb</i>	0.0003	0.0000
	<i>R/L Index</i>	0.0009	0.0000
	<i>R/L Middle</i>	0.0016	0.0000
<b>Plain to Rolled</b>	<i>R Thumb</i>	0.0015	0.0000
	<i>R Index</i>	0.0028	0.0000
	<i>R Middle</i>	0.0037	0.0000
	<i>L Thumb</i>	0.0017	0.0000
	<i>L Index</i>	0.0041	0.0000
	<i>L Middle</i>	0.0052	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>	0.0012	0.0000
<b>Rolled to Rolled</b>	<i>R Thumb</i>	0.0013	0.0000
	<i>R Index</i>	0.0013	0.0000
	<i>R Middle</i>	0.0014	0.0000
	<i>L Thumb</i>	0.0013	0.0000
	<i>L Index</i>	0.0018	0.0000
	<i>L Middle</i>	0.0018	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>	0.0005	0.0000

Table 4: EER and FTE — Dataset AZLA

		<b>EER</b>	<b>FTE Rate</b>
<i>R Index</i>	0.0126	0.0000	
<i>L Index</i>	0.0117	0.0000	
<i>R/L Index</i>	0.0067	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>	0.0046	0.0000	
<i>R/L Index</i>	0.0002	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>	0.0022 ±0.00027	0.0003 ±0.00009	n/a
	<i>R Index</i>	0.0072 ±0.00048	0.0282 ±0.00094	0.0013 ±0.00020
	<i>R Middle</i>	0.0087 ±0.00053	0.0874 ±0.00160	0.0076 ±0.00049
	<i>L Thumb</i>	0.0014 ±0.00021	n/a	n/a
	<i>L Index</i>	0.0109 ±0.00059	0.0907 ±0.00162	0.0093 ±0.00054
	<i>L Middle</i>	0.0107 ±0.00058	0.2226 ±0.00235	0.0463 ±0.00119
	<i>R/L Thumb</i>	0.0006 ±0.00013	n/a	n/a
	<i>R/L Index</i>	0.0010 ±0.00018	n/a	n/a
	<i>R/L Middle</i>	0.0021 ±0.00026	0.0002 ±0.00007	n/a
Plain to Rolled	<i>R Thumb</i>	0.0023 ±0.00027	0.0003 ±0.00010	n/a
	<i>R Index</i>	0.0053 ±0.00041	0.0095 ±0.00055	0.0001 ±0.00007
	<i>R Middle</i>	0.0062 ±0.00044	0.0359 ±0.00105	0.0006 ±0.00014
	<i>L Thumb</i>	0.0022 ±0.00026	0.0005 ±0.00013	n/a
	<i>L Index</i>	0.0070 ±0.00047	0.0348 ±0.00104	0.0015 ±0.00022
	<i>L Middle</i>	0.0080 ±0.00051	0.1676 ±0.00211	0.0067 ±0.00046
	<i>R/L Thumb</i>	0.0006 ±0.00014	n/a	n/a
	<i>R/L Index</i>	0.0008 ±0.00016	n/a	n/a
	<i>R/L Middle</i>	0.0015 ±0.00022	n/a	n/a
Rolled to Rolled	<i>R Thumb</i>	0.0017 ±0.00024	n/a	n/a
	<i>R Index</i>	0.0016 ±0.00022	n/a	n/a
	<i>R Middle</i>	0.0018 ±0.00024	n/a	n/a
	<i>L Thumb</i>	0.0017 ±0.00023	n/a	n/a
	<i>L Index</i>	0.0022 ±0.00026	0.0003 ±0.00010	n/a
	<i>L Middle</i>	0.0022 ±0.00026	0.0002 ±0.00008	n/a
	<i>R/L Thumb</i>	0.0005 ±0.00012	n/a	n/a
	<i>R/L Index</i>	0.0005 ±0.00012	n/a	n/a
	<i>R/L Middle</i>	0.0005 ±0.00013	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>	0.0204 ±0.00080	0.7887 ±0.00231	0.4088 ±0.00278
<i>L Index</i>	0.0192 ±0.00078	0.7551 ±0.00243	0.3378 ±0.00268
<i>R/L Index</i>	0.0127 ±0.00063	0.1865 ±0.00220	0.0236 ±0.00086

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>	0.0025 ±0.00028	0.0011 ±0.00019	n/a
<i>L Index</i>	0.0067 ±0.00046	0.2937 ±0.00258	0.0021 ±0.00026
<i>R/L Index</i>	0.0002 ±0.00008	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

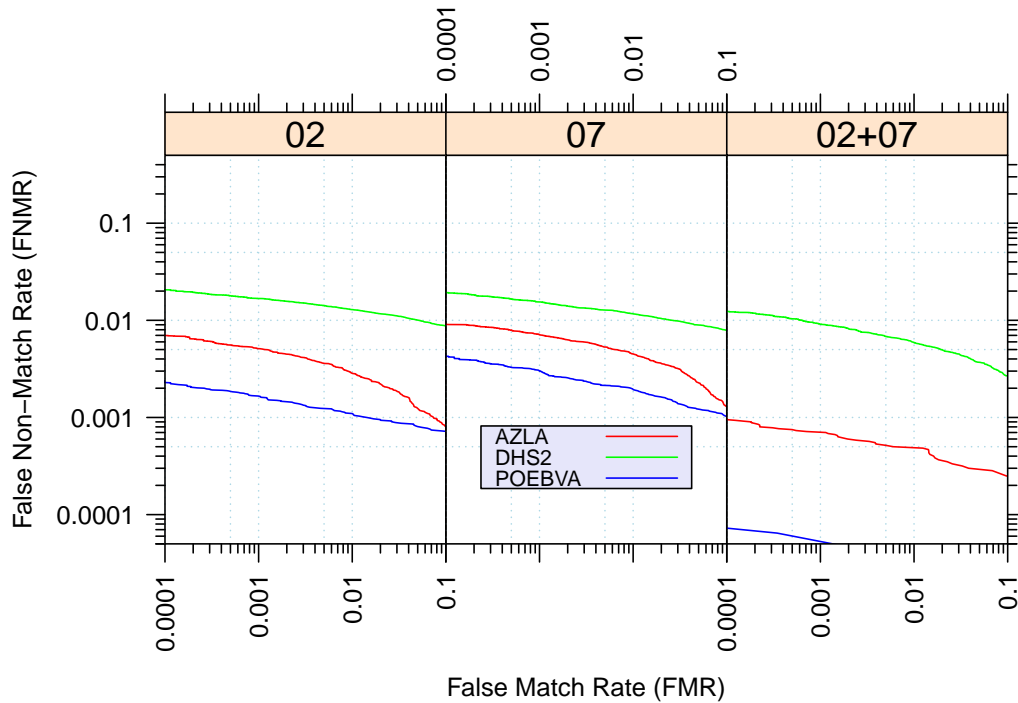


Figure 8: Original PFT Dataset – DET

		EER	FNMR@FMR = 0.0001	FMR@FNMR = 0.005
<b>AZLA</b>	<i>R Index</i>	0.0039	0.0070	0.0011
	<i>L Index</i>	0.0053	0.0091	0.0063
	<i>R/L Index</i>	0.0007	0.0009	n/a
<b>DHS2</b>	<i>R Index</i>	0.0125	0.0206	0.3626
	<i>L Index</i>	0.0114	0.0192	0.3477
	<i>R/L Index</i>	0.0066	0.0123	0.0192
<b>POEBVA</b>	<i>R Index</i>	0.0015	0.0023	n/a
	<i>L Index</i>	0.0024	0.0043	n/a
	<i>R/L Index</i>	n/a	n/a	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.