

## 3E Results

1/29/2012

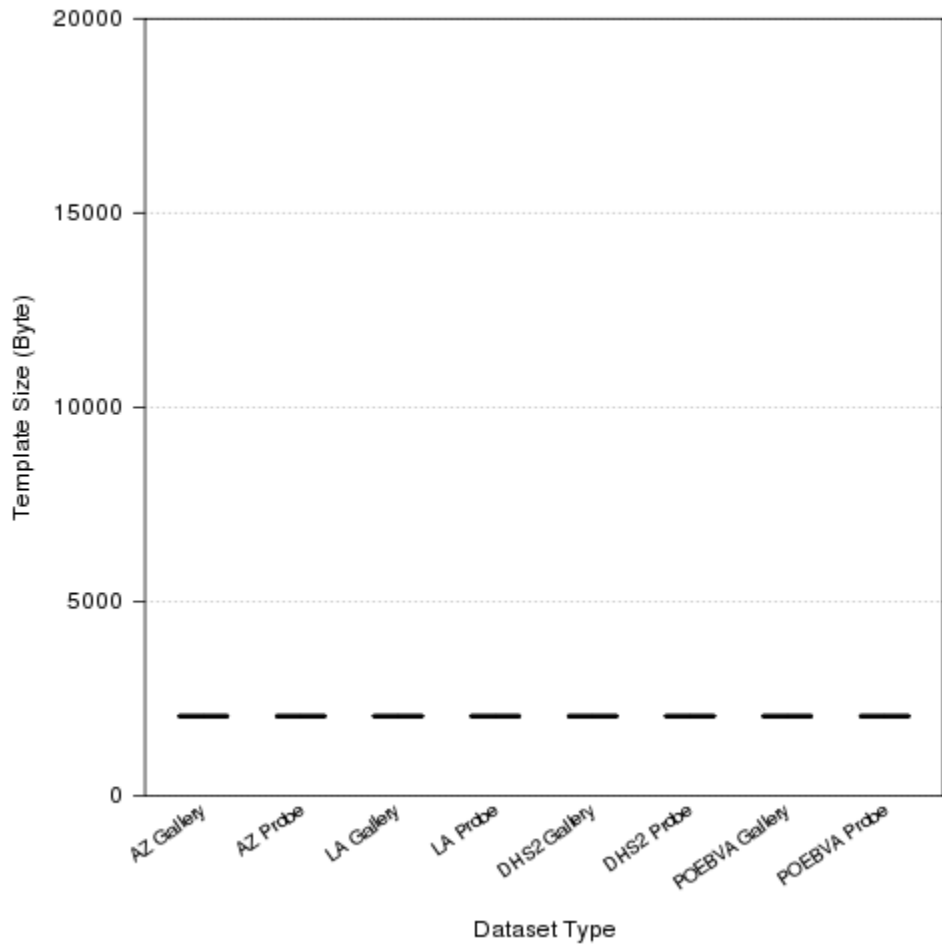
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\* Note:

Finger	01	02	03	06	07	08	01+06	02+07	03+08
Description	Right Thumb	Right Index	Right Middle	Left Thumb	Left Index	Left Middle	Right and Left Thumb	Right and Left Index	Right and Left Middle

### 3E 1K Sample Template Size Distribution



**Figure 3E-1**

Dataset	AZ	AZ	LA	LA	DHS2	DHS2	POEBVA	POEBVA
Type	Gallery	Probe	Gallery	Probe	Gallery	Probe	Gallery	Probe
Width x Height (ppi)	800x800	800x800	412x1000	400x776	368x368	368x368	500x500	368x368
Maximum	2048	2048	2048	2048	2048	2048	2048	2048
75%	2048	2048	2048	2048	2048	2048	2048	2048
Median	2048	2048	2048	2048	2048	2048	2048	2048
25%	2048	2048	2048	2048	2048	2048	2048	2048
Minimum	2048	2048	2048	2048	2048	2048	2048	2048

**Table 3E-1**

Note: All the template sizes are the same with 2048 byte.

### 3E 1K sample Enrollment and Comparison time

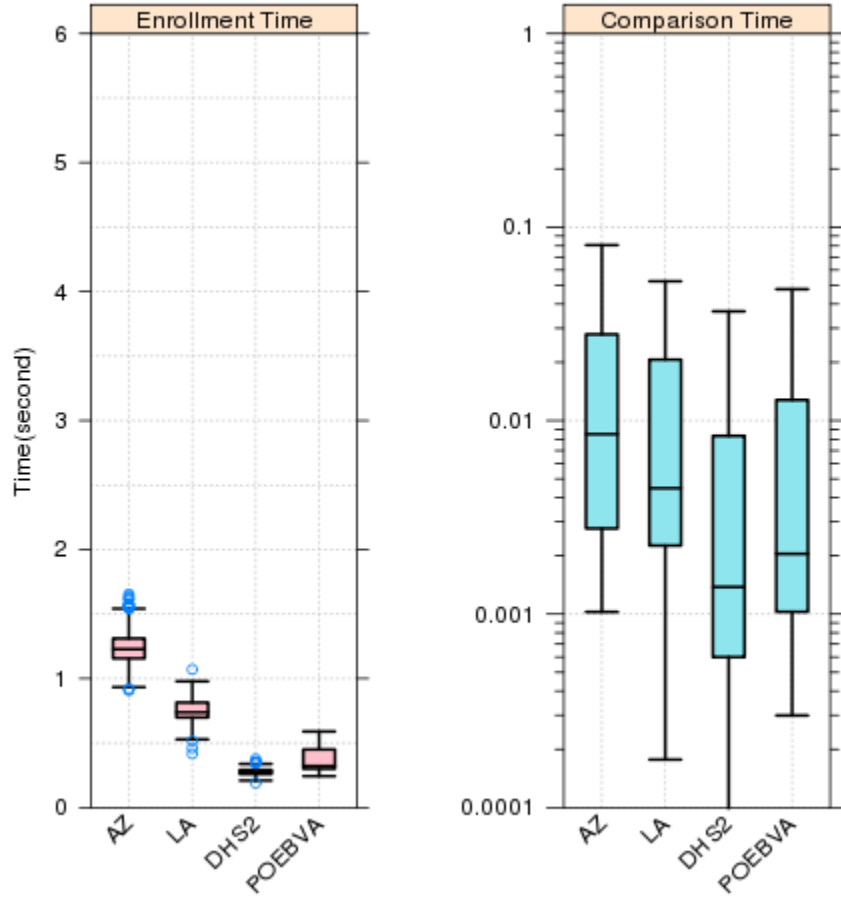


Figure 3E-2

**Enrollment Time (second)**

Dataset	AZ	LA	DHS2	POEBVA
Maximum	1.6544	1.0710	0.3765	0.5898
75%	1.3104	0.8138	0.2922	0.4506
Median	1.2278	0.7380	0.2779	0.3217
25%	1.1559	0.6983	0.2591	0.3008
Minimum	0.9094	0.4165	0.1901	0.2433

**Comparison Time (second)**

Dataset	AZ	LA	DHS2	POEBVA
Maximum	0.0807	0.0525	0.0367	0.0478
75%	0.0279	0.0207	0.0083	0.0128
Median	0.0085	0.0045	0.0014	0.0020
25%	0.0028	0.0023	0.0006	0.0010
Minimum	0.0010	0.0002	0.0000	0.0003

**Table 3E-2 1K Sample Enrollment and Comparison Time**

### 3E- DET for ALL Datasets (P2P)

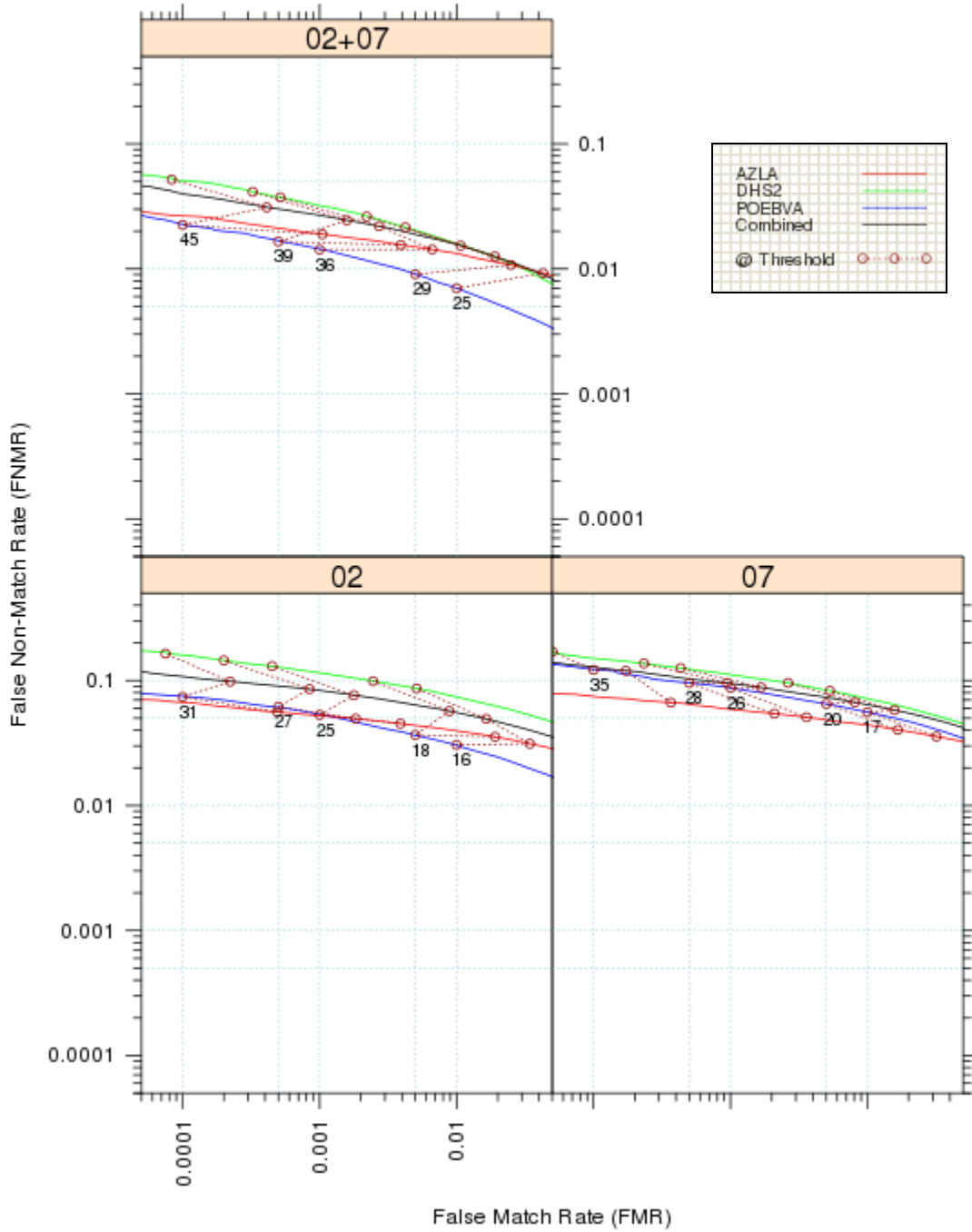
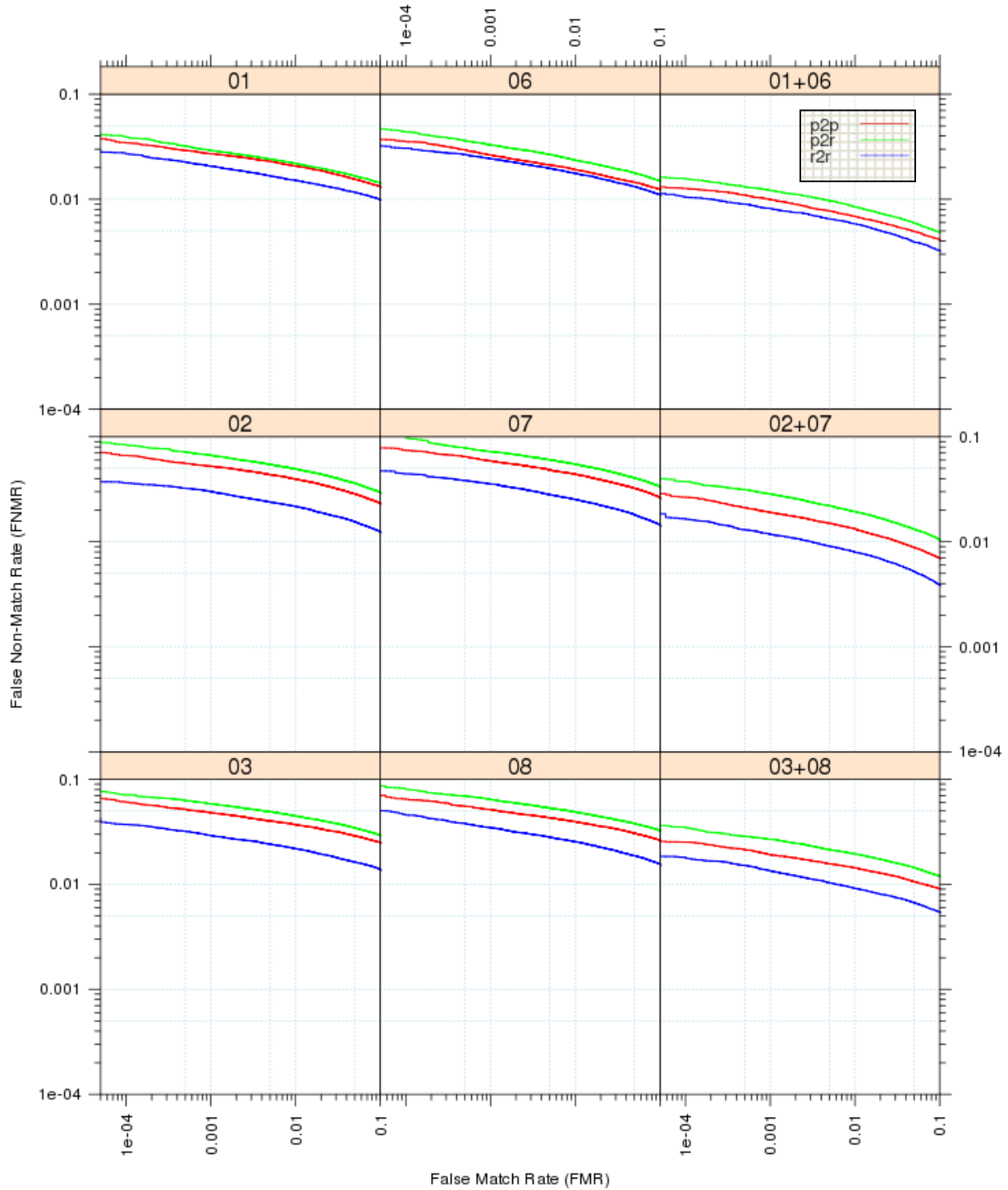


Figure 3E-3

### 3E- DET for dataset AZLA



**Figure 3E-4**

Note: p2p - plain vs. plain; p2r - plain vs. rolled; r2r - rolled vs. rolled.

### 3E EER and FTE

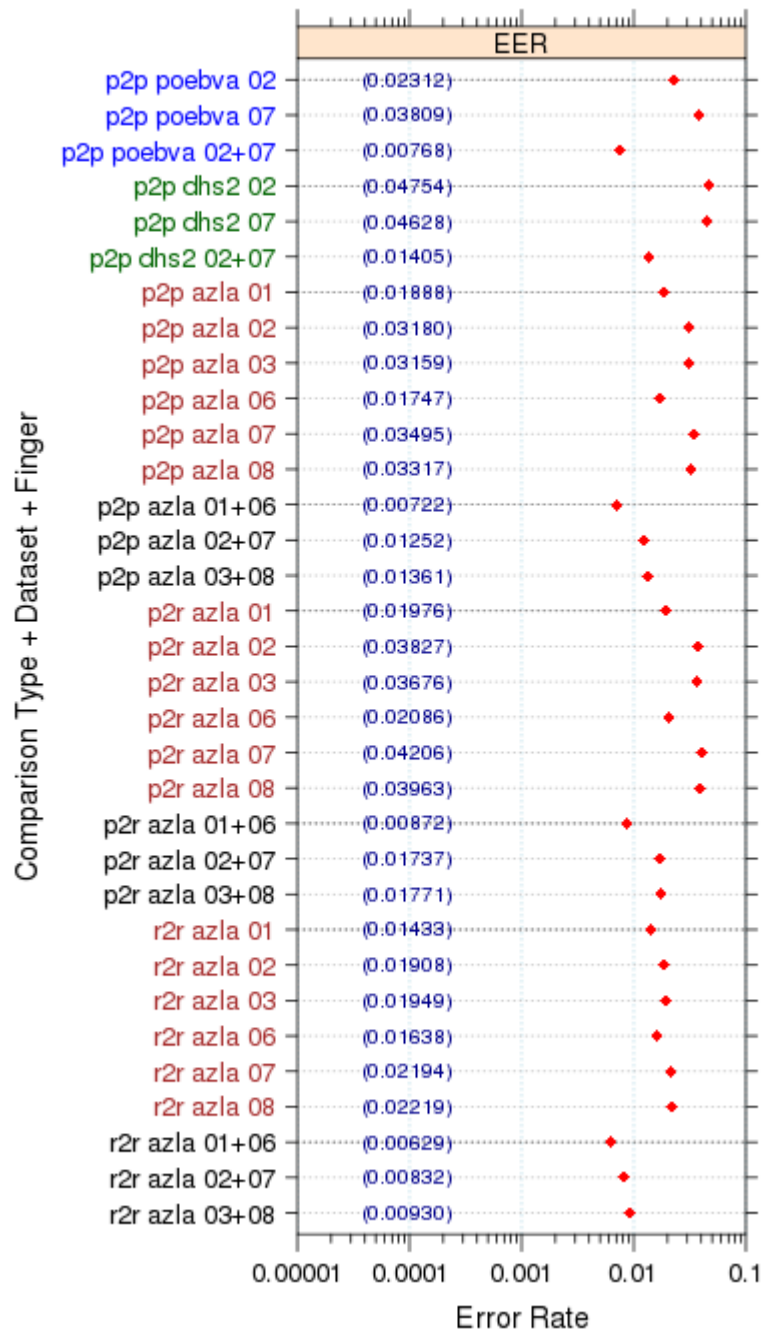


Figure 3E-5

Note: FTE is not presented in Figure 5 due to all the FTE = 0.

### 3E - FNMRs @ FMR = .0001 and 95% Confidence Intervals

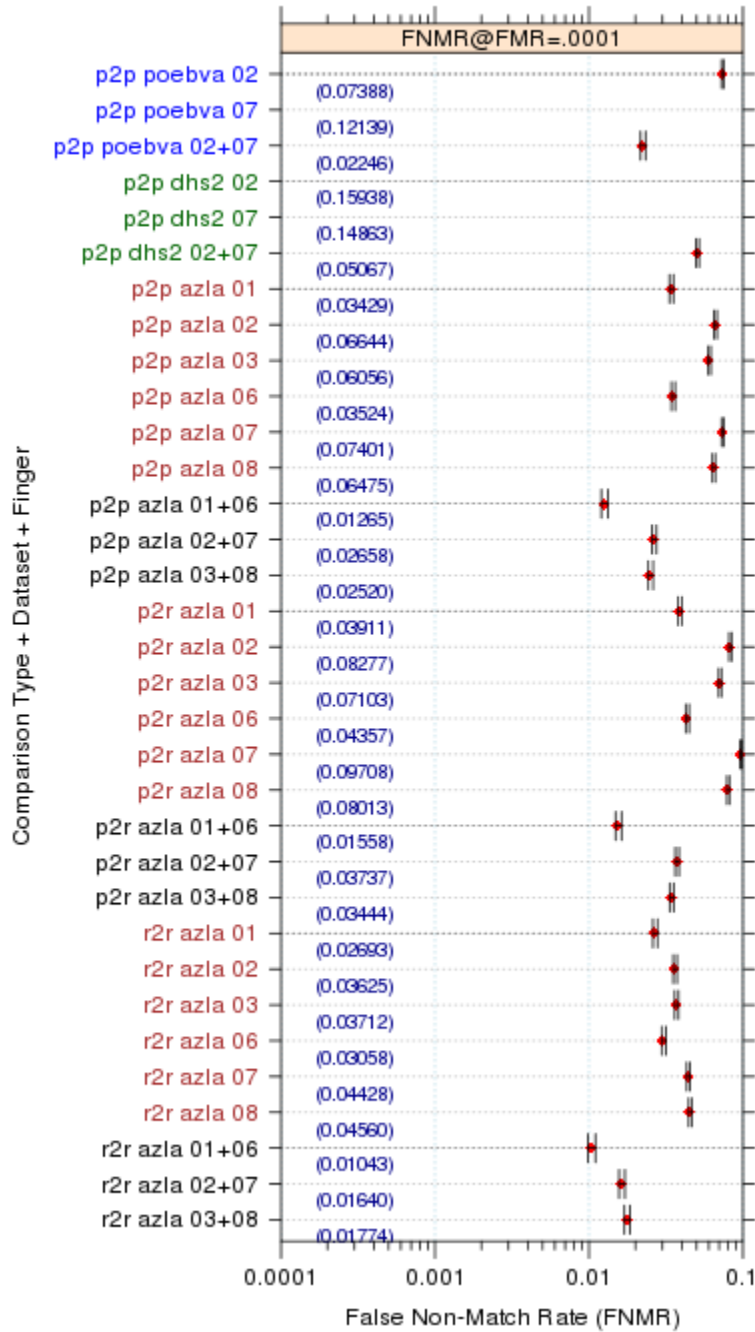


Figure 3E-5

### 3E- FMRs @ FNMR = (.002, 0.005) and 95% Confidence Intervals

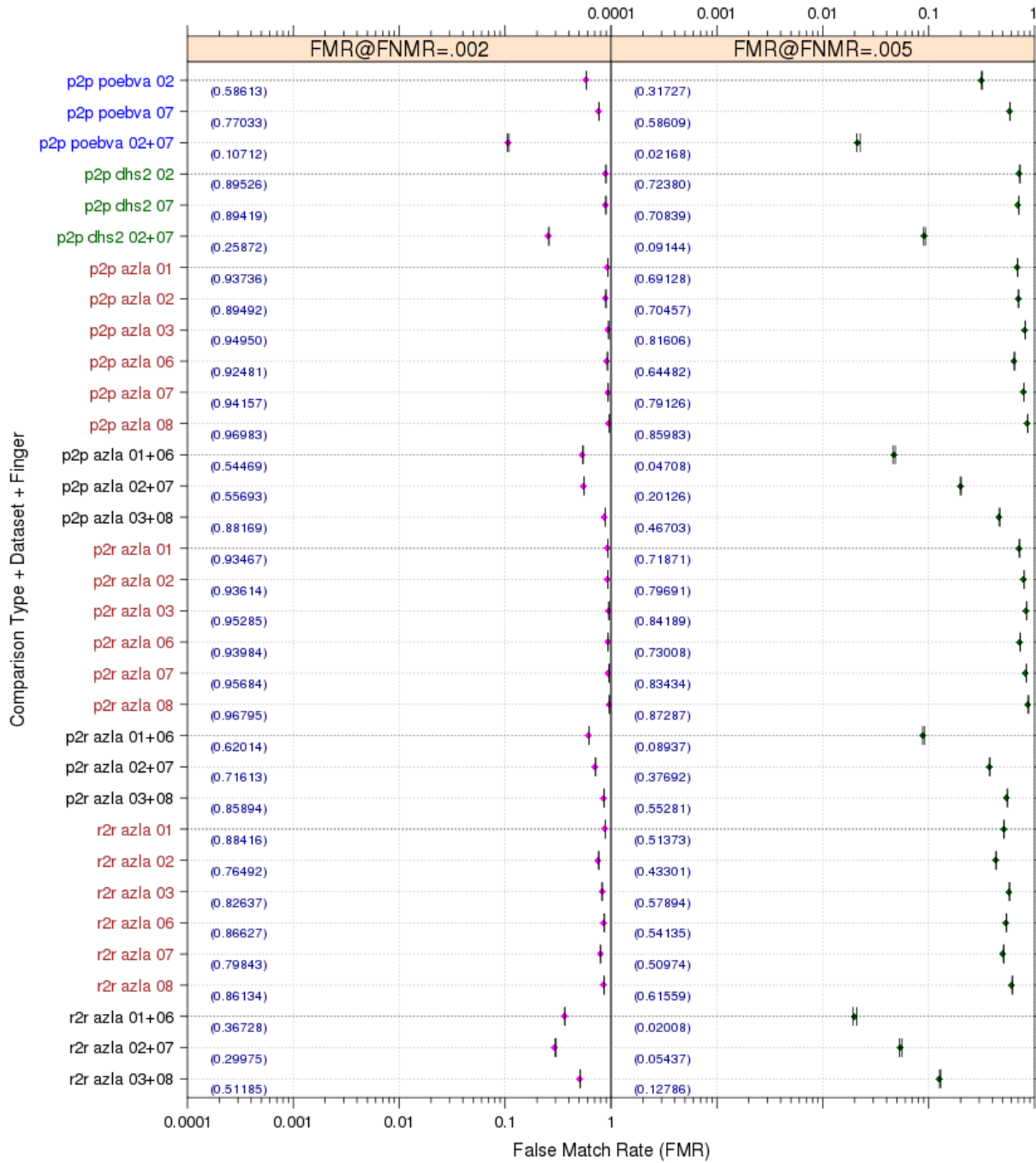


Figure 3E-6



**3E - EER and FTE table**

Comparison Type	Dataset	Finger Position	EER	FTE Rate	FTE count
p2p	poebva	02	0.0231	0	0
p2p	poebva	07	0.0381	0	0
p2p	poebva	02+07	0.0077	0	0
p2p	dhs2	02	0.0475	0	0
p2p	dhs2	07	0.0463	0	0
p2p	dhs2	02+07	0.0141	0	0
p2p	azla	01	0.0189	0	0
p2p	azla	02	0.0318	0	0
p2p	azla	03	0.0316	0	0
p2p	azla	06	0.0175	0	0
p2p	azla	07	0.0350	0	0
p2p	azla	08	0.0332	0	0
p2p	azla	01+06	0.0072	0	0
p2p	azla	02+07	0.0125	0	0
p2p	azla	03+08	0.0136	0	0
p2r	azla	01	0.0198	0	0
p2r	azla	02	0.0383	0	0
p2r	azla	03	0.0368	0	0
p2r	azla	06	0.0209	0	0
p2r	azla	07	0.0421	0	0
p2r	azla	08	0.0396	0	0
p2r	azla	01+06	0.0087	0	0
p2r	azla	02+07	0.0174	0	0
p2r	azla	03+08	0.0177	0	0
r2r	azla	01	0.0143	0	0
r2r	azla	02	0.0191	0	0
r2r	azla	03	0.0195	0	0
r2r	azla	06	0.0164	0	0
r2r	azla	07	0.0219	0	0
r2r	azla	08	0.0222	0	0
r2r	azla	01+06	0.0063	0	0
r2r	azla	02+07	0.0083	0	0
r2r	azla	03+08	0.0093	0	0

**Table 3E-3**

Note: All the FET count are 0s, Hence FTE = 0

**3E- FNMR @ FMR=0.0001, FMRs @ FNMR = (.002, 0.005) and 95% Confidence Intervals**

Matching Type	Dataset	Finger position	FNMR@ FMR= 0.0001	95% Confidence Interval of FNMR	FMR1 @ FNMR= 0.002	95% Confidence Interval of FMR1	FMR2 @ FNMR= 0.005	95% Confidence Interval of FMR2
p2p	poebva	02	0.0739	±0.0015	0.5861	±0.0028	0.3173	±0.0026
p2p	poebva	07	0.1214	±0.0018	0.7703	±0.0024	0.5861	±0.0028
p2p	poebva	02+07	0.0225	±0.0008	0.1071	±0.0018	0.0217	±0.0008
p2p	dhs2	02	0.1594	±0.0021	0.8953	±0.0017	0.7238	±0.0025
p2p	dhs2	07	0.1486	±0.0020	0.8942	±0.0017	0.7084	±0.0026
p2p	dhs2	02+07	0.0507	±0.0012	0.2587	±0.0025	0.0914	±0.0016
p2p	azla	01	0.0343	±0.0010	0.9374	±0.0014	0.6913	±0.0026
p2p	azla	02	0.0664	±0.0014	0.8949	±0.0017	0.7046	±0.0026
p2p	azla	03	0.0606	±0.0014	0.9495	±0.0012	0.8161	±0.0022
p2p	azla	06	0.0352	±0.0010	0.9248	±0.0015	0.6448	±0.0027
p2p	azla	07	0.0740	±0.0015	0.9416	±0.0013	0.7913	±0.0023
p2p	azla	08	0.0648	±0.0014	0.9698	±0.0010	0.8598	±0.0020
p2p	azla	01+06	0.0127	±0.0006	0.5447	±0.0028	0.0471	±0.0012
p2p	azla	02+07	0.0266	±0.0009	0.5569	±0.0028	0.2013	±0.0023
p2p	azla	03+08	0.0252	±0.0009	0.8817	±0.0018	0.4670	±0.0028
p2r	azla	01	0.0391	±0.0011	0.9347	±0.0014	0.7187	±0.0025
p2r	azla	02	0.0828	±0.0016	0.9361	±0.0014	0.7969	±0.0023
p2r	azla	03	0.0710	±0.0015	0.9529	±0.0012	0.8419	±0.0021
p2r	azla	06	0.0436	±0.0012	0.9398	±0.0013	0.7301	±0.0025
p2r	azla	07	0.0971	±0.0017	0.9568	±0.0012	0.8343	±0.0021
p2r	azla	08	0.0801	±0.0015	0.9680	±0.0010	0.8729	±0.0019
p2r	azla	01+06	0.0156	±0.0007	0.6201	±0.0027	0.0894	±0.0016
p2r	azla	02+07	0.0374	±0.0011	0.7161	±0.0026	0.3769	±0.0027
p2r	azla	03+08	0.0344	±0.0010	0.8589	±0.0020	0.5528	±0.0028
r2r	azla	01	0.0269	±0.0009	0.8842	±0.0018	0.5137	±0.0028
r2r	azla	02	0.0363	±0.0011	0.7649	±0.0024	0.4330	±0.0028
r2r	azla	03	0.0371	±0.0011	0.8264	±0.0021	0.5789	±0.0028
r2r	azla	06	0.0306	±0.0010	0.8663	±0.0019	0.5414	±0.0028
r2r	azla	07	0.0443	±0.0012	0.7984	±0.0023	0.5097	±0.0028
r2r	azla	08	0.0456	±0.0012	0.8613	±0.0020	0.6156	±0.0028
r2r	azla	01+06	0.0104	±0.0006	0.3673	±0.0027	0.0201	±0.0008
r2r	azla	02+07	0.0164	±0.0007	0.2998	±0.0026	0.0544	±0.0013
r2r	azla	03+08	0.0177	±0.0007	0.5119	±0.0028	0.1279	±0.0019

**Table 3E-4**