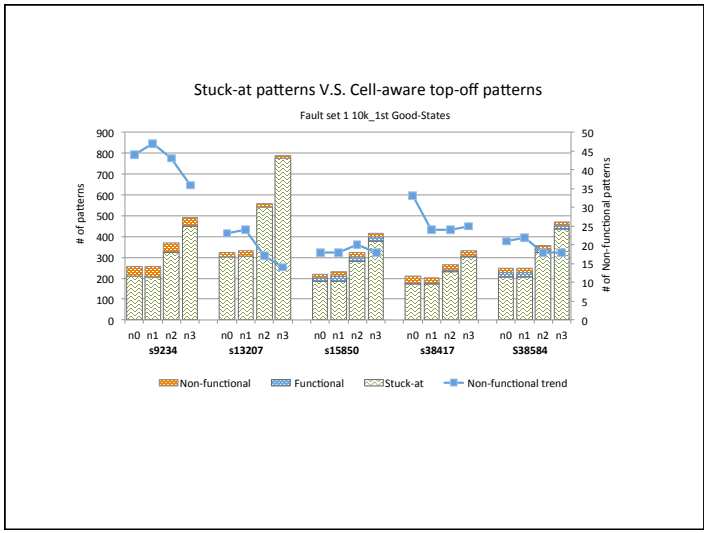
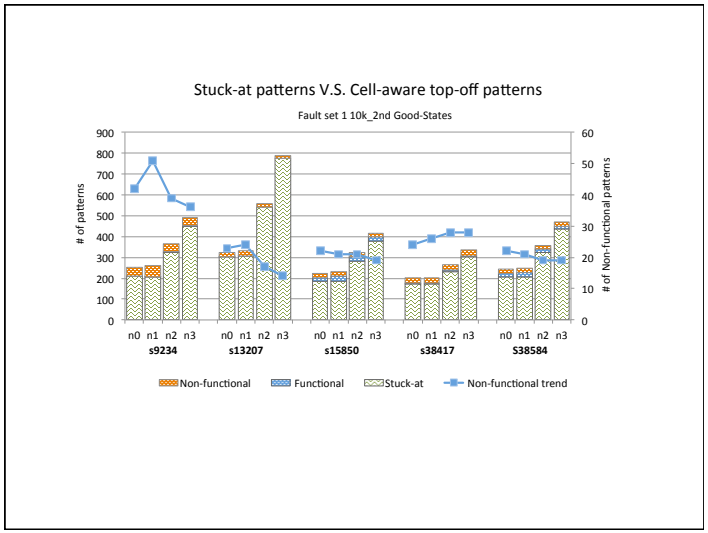
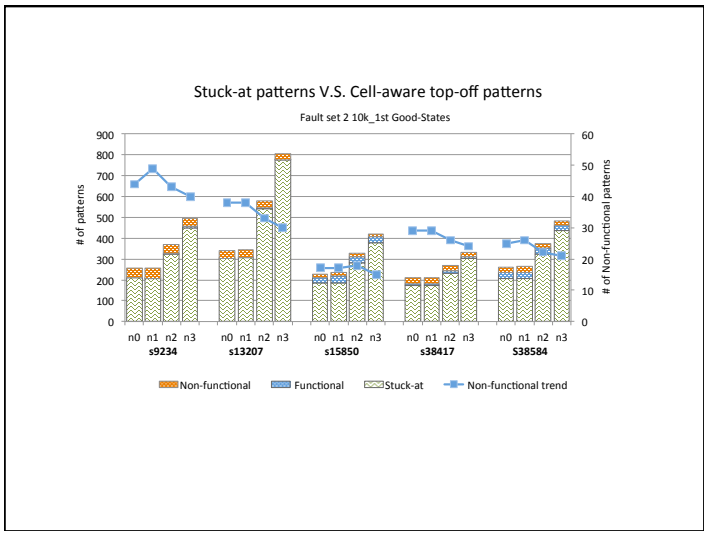
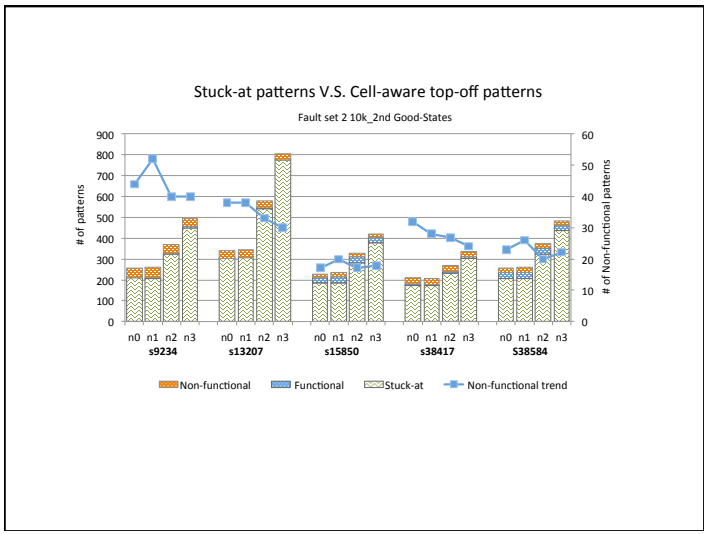
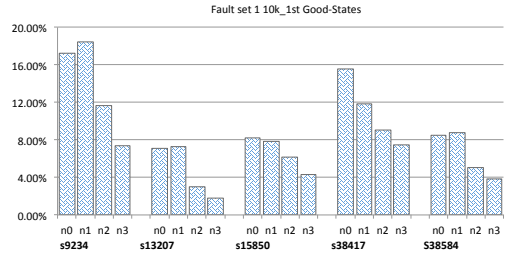

Stuck-at patterns V.S. Cell-aware top-off patterns
Fault set 1 10k_1st Good-States
# of patterns
# of Non-functional patterns
n0 n1 n2 n3
s9234
s13207
s15850
s38417
S38584
Non-functional
Functional
Stuck-at
Non-functional trend


Stuck-at patterns V.S. Cell-aware top-off patterns
Fault set 1 10k_2nd Good-States
# of patterns
# of Non-functional patterns
n0 n1 n2 n3
s9234
s13207
s15850
s38417
S38584
Non-functional
Functional
Stuck-at
Non-functional trend

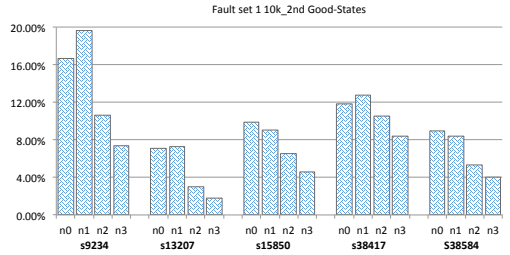

Stuck-at patterns V.S. Cell-aware top-off patterns
Fault set 2 10k_1st Good-States
# of patterns
# of Non-functional patterns
n0 n1 n2 n3
s9234
s13207
s15850
s38417
S38584
Non-functional
Functional
Stuck-at
Non-functional trend


Stuck-at patterns V.S. Cell-aware top-off patterns
Fault set 2 10k_2nd Good-States
# of patterns
# of Non-functional patterns
n0 n1 n2 n3
s9234
s13207
s15850
s38417
S38584
Non-functional
Functional
Stuck-at
Non-functional trend

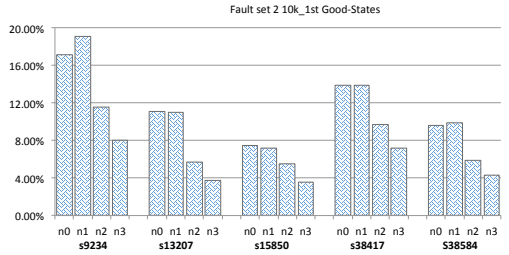
% increase in test length when non-functional cell-aware faults are included in fault set



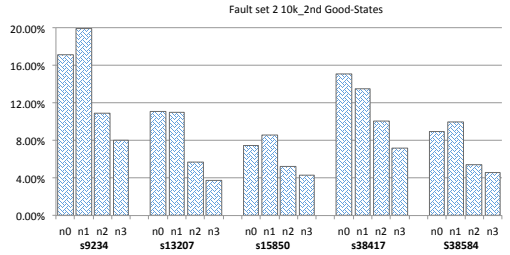
% increase in test length when non-functional cell-aware faults are included in fault set



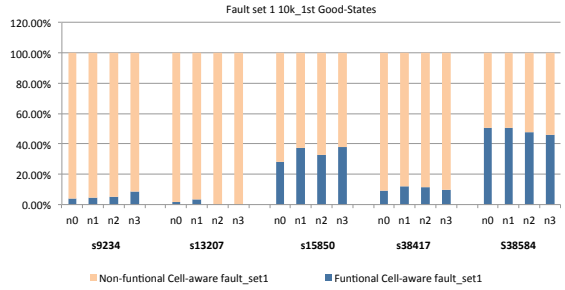
% increase in test length when non-functional cell-aware faults are included in fault set



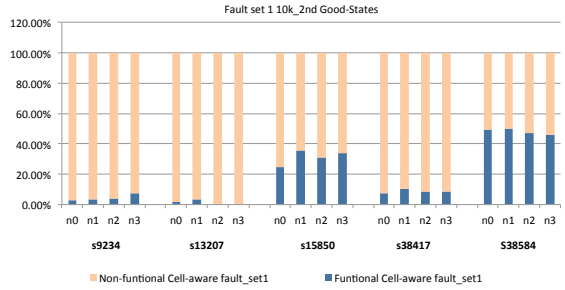
% increase in test length when non-functional cell-aware faults are included in fault set



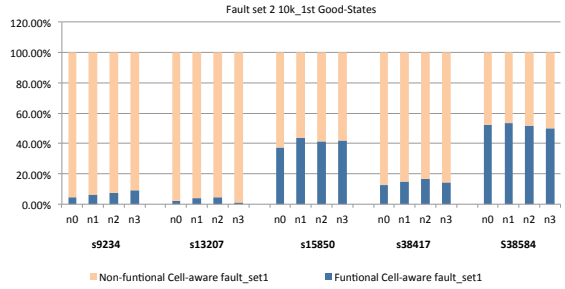
Distribution of Cell-aware faults between functional & non-functional for those not detected by stuck-at ATPG



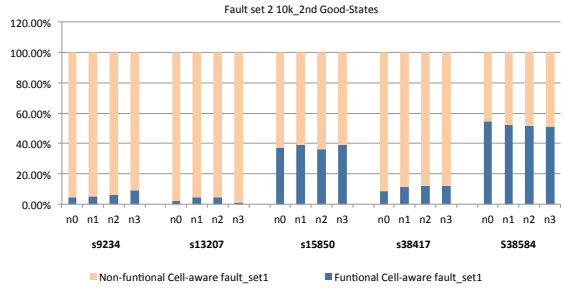
Distribution of Cell-aware faults between functional & non-functional for those not detected by stuck-at ATPG



Distribution of Cell-aware faults between functional & non-functional for those not detected by stuck-at ATPG



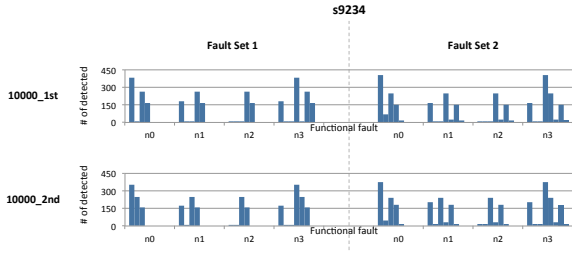
Distribution of Cell-aware faults between functional & non-functional for those not detected by stuck-at ATPG



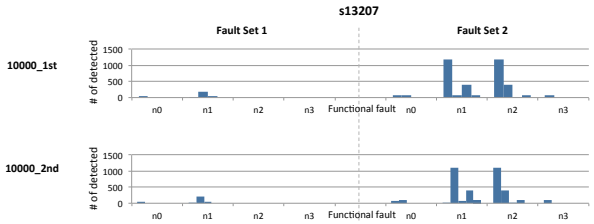
# of functional faults table

Benchmark		s9234				s13207				s15850				s38417				s38584			
stuck-at N function		n0	n1	n2	n3	n0	n1	n2	n3	n0	n1	n2	n3	n0	n1	n2	n3	n0	n1	n2	n3
Fault set 1	10k_1st	4	5	5	7	1	1	0	0	26	41	31	37	26	38	31	23	153	177	142	128
	10k_2nd	3	4	4	6	1	1	0	0	23	39	29	33	21	33	24	20	149	175	141	128
Fault set 2	10k_1st	5	7	7	8	2	4	4	1	41	53	45	47	35	46	45	36	183	216	178	160
	10k_2nd	5	6	6	8	2	5	4	1	41	47	39	44	23	36	33	30	190	212	177	163

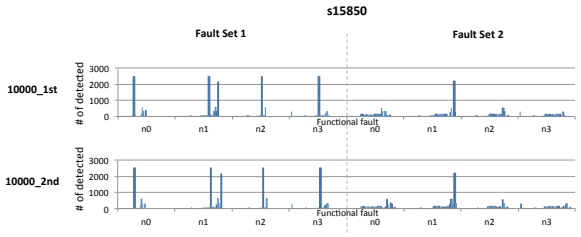
Number of detections for each fault detected by Good-State patterns



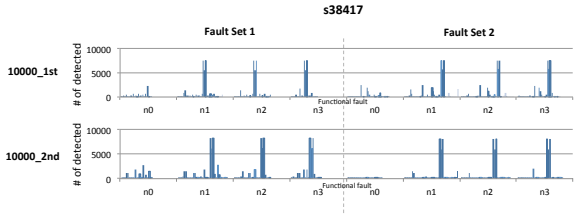
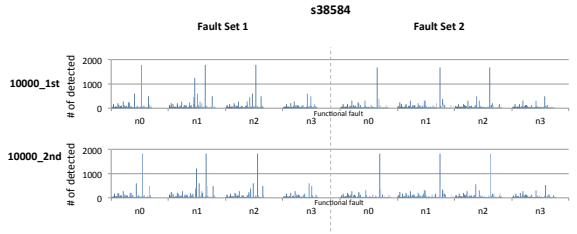
Number of detections for each fault detected by Good-State patterns



Number of detections for each fault detected by Good-State patterns



Number of detections for each fault detected by Good-State patterns



Number of detections for each fault detected by Good-State patterns