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List Scheduling and Tree Growing Technique in Power-Constrained Block-Test Scheduling

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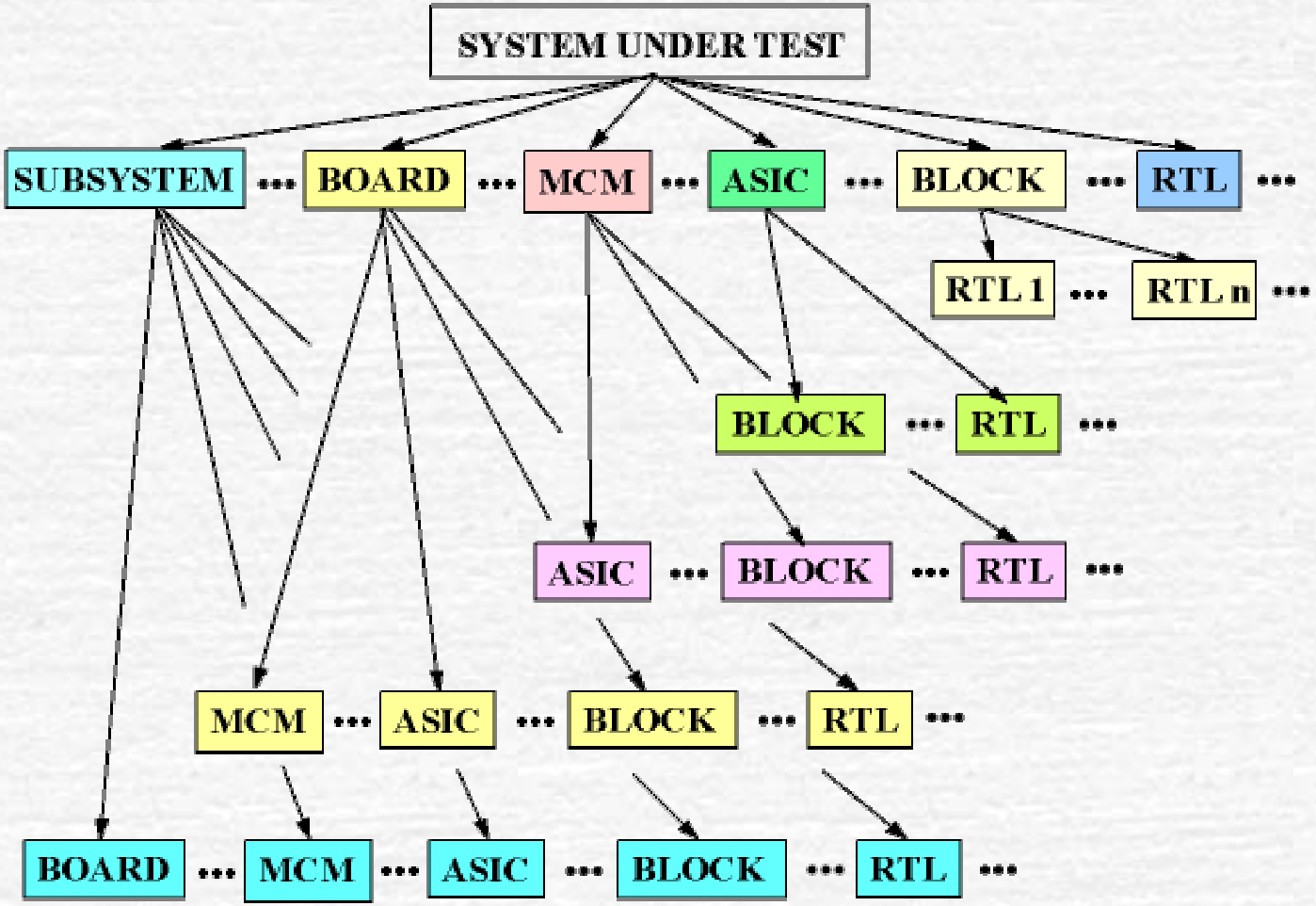
Presentation's Outline:

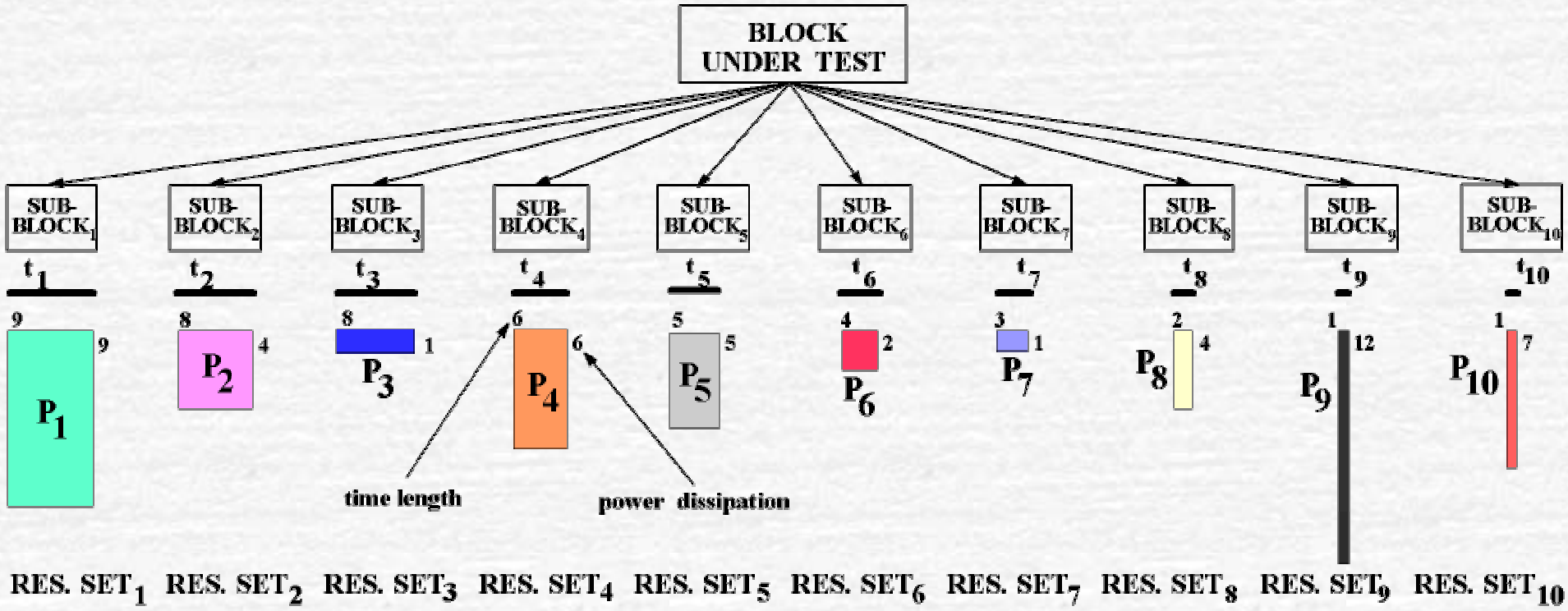
- Test scheduling under power constraints problem
- System-level test scheduling
- Block-test model
- Test scheduling chart
- Power-test scheduling chart
- Power-test scheduling chart's characteristics
- Tree growing merging step
- Tree growing example
- Experimental results
- Conclusions

Heuristic's features:

- Unequal-length block-test scheduling problem
- Power dissipation constrained problem
- Constant additive power estimation model
- Extended tree growing technique
  - Compatibility tree – generalized tree structure
- List scheduling algorithm-based heuristic
  - Polynomial complexity
- System-level suitable power-test scheduling algorithm



System-Under-Test Hierarchical Model


BLOCK UNDER TEST
SUB-BLOCK1
SUB-BLOCK2
SUB-BLOCK3
SUB-BLOCK4
SUB-BLOCK5
SUB-BLOCK6
SUB-BLOCK7
SUB-BLOCK8
SUB-BLOCK9
SUB-BLOCK10
t1
t2
t3
t4
t5
t6
t7
t8
t9
t10
9
8
8
6
5
4
3
2
1
1
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
time length
power dissipation
RES. SET1
RES. SET2
RES. SET3
RES. SET4
RES. SET5
RES. SET6
RES. SET7
RES. SET8
RES. SET9
RES. SET10