

# JETTA – Special Issue on Defect and Fault Tolerance

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Defect and fault tolerance has become increasingly important in integrated circuits and systems. Higher levels of integration have come with greater process variations and more defects. The scaling down of feature sizes, reduction in power supply voltage, and increase in operating frequency is rapidly increasing the susceptibility of circuits to soft errors resulting in much higher soft error rates. Of particular concern is radiation effects in silicon as technologies scales below 60 nm. These challenges require new techniques with lower cost and greater effectiveness. Moreover, emerging technologies such as carbon nanotubes, quantum computing, and single electron transistor are expected to have very high defect rates. This requires a whole new class of schemes with much greater redundancy. The purpose of this special issue of JETTA is to bring research papers in this important topic together in a single issue of the Journal. It will contain papers on all aspects of defect and fault tolerance. The topics of interest include, but are not limited to:

- Error Detection, Correction, and Recovery
- Dependability Analysis and Validation
- Yield Analysis, Modeling and Enhancement
- Repair, Restructuring and Reconfiguration
- Testing Techniques
- Error-Control Coding
- Delay Defect/Fault Tolerance
- Recovery Schemes using Space/Time Redundancy
- Fault Masking Logic Design
- Self-Testing and Self-Checking Design
- Reliable Circuit Design and Synthesis
- Defect and Fault Tolerance in Emerging Technologies
- Radiation Effects in Nanometric Technologies
- Radiation Hardened Processes
- Architectures for Single Event Effect (SEE) Tolerance
- Totally Fail-Safe Design for Critical Areas (automotive, avionics, biomedical, etc.)
- Applications

Authors should submit previously unpublished papers to the manuscript submission website [www.editorialmanager.com/jetta/](http://www.editorialmanager.com/jetta/) specifying the article type as "DFTISS". Expanded versions of conference papers are also welcome. Please follow the author instructions available at [www.springer.com/10836](http://www.springer.com/10836) when submitting your paper. The final selections will be made through the journal's peer review process. The schedule is as follows:

Paper submission deadline:	November 20, 2006
Acceptance/revision/rejection notification:	February 28, 2007
Final manuscript:	March 31, 2007
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