

## A Comprehensive Method of Fault Detection and Isolation based on Testability Modeling Data

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**Abstract :** Testability modeling is a commonly used method in testability design and analysis of system. A dependency matrix will be obtained from testability modeling, and we will give a quantitative evaluation about fault detection and isolation. Based on the dependency matrix, we can obtain the diagnosis tree. The tree provides the procedures of the fault detection and isolation. But the dependency matrix usually includes built-in test (BIT) and manual test in fact. BIT runs the test automatically and is not limited by the procedures. The method above cannot give a more efficient diagnosis and use the advantages of the BIT. A Comprehensive method of fault detection and isolation is proposed. This method combines the advantages of the BIT and Manual test by splitting the matrix. The result of the case study shows that the method is effective.

**Keywords :** fault detection, fault isolation, testability modeling, BIT

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