

Novel Formal Verification Based Coverage Augmentation Technique

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Abstract : Formal verification techniques have become widely popular in pre-silicon verification as an alternate to constrain random simulation based techniques. This paper proposed a novel formal verification-based coverage augmentation technique in verifying complex RTL functional verification faster. The proposed approach relies on augmenting coverage analysis coming from simulation and formal verification. Besides this, the functional qualification framework not only helps in improving the coverage at a faster pace but also aids in maturing and qualifying the formal verification infrastructure. The proposed technique has helped to achieve faster verification sign-off, resulting in faster time-to-market. The design picked had a complex control and data path and had many configurable options to meet multiple specification needs. The flow is generic, and tool independent, thereby leveraging across the projects and design will be much easier

Keywords : COI (cone of influence), coverage, formal verification, fault injection

Conference Title : ICVLSIDT 2023 : International Conference on VLSI Design and Technology

Conference Location : New York, United States

Conference Dates : December 11-12, 2023