

Property Driven Test Generation

Since FPV tools do not scale to designs of large size, the popular alternative to FPV at the system level is *dynamic assertion-based verification (ABV)*, where the formal properties are checked on-the-fly during simulation. The main limitation of the approach is that only those behaviors are tested that are driven by the test-bench during simulation. Researchers have attempted various techniques to develop test benches that exercise those behaviors for which a property is relevant, but no formal methodology that generates the tests automatically was known. We developed this methodology for the first time using an on-the-fly constraint satisfaction approach.

Publications out of this work:

1. Banerjee, A., Pal, B., Das, S., Kumar, A., Dasgupta, P., Test Generation Games from Formal Specifications, In Proc. of DAC 2006
2. Banerjee, A., Pal, B., Chakravorty, S., Dasgupta, P., Interactive Test-Bench Synthesis for Assertion-Based Verification, In Proceedings of INDICON 2005