Since 1992, the Asian Test Symposium (ATS) has been a major international forum on LSI testing and system reliability. ATS has provided researchers and practitioners from all over the world with an intriguing and friendly atmosphere to present and discuss innovative ideas and state-of-the-art practices. Its 16th event (ATS 2007), held in Beijing, China from October 8 to 11, 2007, was not an exception. One hundred sixty-seven (167) papers were submitted to ATS 2007; 76 were accepted and presented at the symposium to 155 attendees from 17 countries and regions.

To encourage innovation and high-quality research work, the ATS 2007 Program Committee made the decision to present an ATS 2007 Best Paper Award. The Best Paper selection was conducted by a 25-member ATS 2007 Best Paper Selection Committee, comprising selected members from the ATS 2007 Program Committee and invited external experts. The selection process was as follows: (1) The top 5 papers rated by paper reviewers and symposium attendees were selected as candidate papers; (2) all ATS 2007 Best Paper Selection Committee members thoroughly reviewed all the candidates’ papers and provided their recommended scores for each candidate’s paper; and (3) the paper with the highest score was selected as the ATS 2007 Best Paper. We are privileged to announce the following paper as the ATS 2007 Best Paper:

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**An Accurate Jitter Estimation Technique for Efficient High Speed I/O Testing**

Dongwoo Hong and Kwang-Ting (Tim) Cheng  
University of California, Santa Barbara, USA

This paper describes a technique for estimating total jitter that, along with a loopback-based margining test, can be applied to test high speed serial interfaces. The limitations of the existing estimation method are discussed based on the dual-Dirac model. It shows the accuracy of the existing method is extremely sensitive to the choice of the fitting region and the ratio of deterministic jitter to random jitter. This paper then proposes a high-order polynomial fitting technique and demonstrates its value for a more efficient and accurate total jitter estimation at a very low Bit-Error-Rate level. The estimation accuracy is also analyzed with respect to different numbers of measurement points for fitting. This analysis shows that only a very small number (i.e., 4) of measurement points is needed for achieving accurate estimation. Therefore, the proposed technique could substantially improve the total jitter calculation accuracy for modern high-speed I/O.

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On behalf of the ATS 2007 Program Committee and ATS 2007 Best Paper Selection Committee, we congratulate the authors of the ATS 2007 Best Paper for their excellent research achievement and outstanding contribution to ATS 2007. We also thank all reviewers and committee members for their time and efforts in the process of the ATS 2007 Best Paper selection.

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