THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Foundations of Computer Science Seminar

Room 261, Ziskind Building
on Monday, Apr 27, 2015
at 14:30

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Old and new PCP constructions

Abstract:

The PCP theorem (AS, ALMSS 1991) guarantees that every NP language has a Probabilistically
Checkable Proof (PCP) system allowing a verifier to check a witness very efficiently using randomness,
and allowing for small error.
Most of the talk will not assume prior knowledge, but I will also devote some time to some recent
work joint with Harsha and Kindler.

In this work we make (some) progress towards proving the so-called "sliding-scale conjecture". This is
a conjecture of BGLR from 1993 about the tradeoff between the number of bits read from the PCP
proof and the error of the verifier.
Our work revisits older constructions and analyzes them using the more modern "modular-
composition" approach.

Based on joint work with Prahladh Harsha and Guy Kindler.