

# NOTES ON PCPS AND UNIQUE GAMES

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ABSTRACT. We expound on the basic theory of approximating **NP** problems. Starting with the PCP Theorem, we introduce background for the Unique Games Conjecture (UGC) and the optimality of the Goeman-Williams Algorithm for MAXCUT assuming the conjecture is true. Finally, we make some connections to Quantum Information Theory, especially Quantum PCPs (qPCPs).

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