

Overview of Quantum Error Correction

Raymond Laflamme (laflamme@iqc.ca)

University of Waterloo

Department of Physics

Waterloo, ON N2L 3G1, Canada

Abstract. In this talk I describe how noise and imprecision of scalable quantum devices can be controlled using ideas error correction. I will describe the idea of quantum codes and present the accuracy threshold theorem which states that a quantum computation can be as long as required with any desired accuracy as long as the noise level is below a threshold value. I will end with comments of recent experimental demonstration.