Abstract Submitted for the DAMOP06 Meeting of The American Physical Society

Quantum computing with polar molecules SUSANNE YELIN, ROBIN COTE, University of Connecticut, TOMMASO CALARCO, Harvard University — The permanent dipoles of polar molecules allow for stable interactions of single-molecular and ensemble qubits. We show how this mechanism can be used for stable quantum information processing, using different setups and estimating their merits as compared to the present state-of-the-art.

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Date submitted: 27 Jan 2006 Electronic form version 1.4