

MAR16-2015-020231

Abstract for an Invited Paper  
for the MAR16 Meeting of  
the American Physical Society

**Quantum error correction in superconducting circuits<sup>1</sup>**

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Can we prolong the coherence of a two-state manifold in a complex quantum system beyond the coherence of its longest-lived component? This question is the starting point of the main challenges in the construction of a scalable quantum computer, namely the implementation of quantum error correction. The presentation will review the experimental progress that recently occurred in the field of superconducting quantum circuits towards the correction, for a full logical qubit memory, of the combinations of bit flip and phase flip errors.

<sup>1</sup>Work supported by ARO and YINQE.