

Abstract Submitted  
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**Optimization of Transmon Qubit Fabrication**<sup>1</sup> JOSEPHINE  
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search Center, IBM QUANTUM COMPUTING GROUP TEAM — Rapid advances  
in the field of superconducting transmon qubits have refined our understanding of  
the role that substrate and interfaces play in qubit decoherence. Here, we review  
strategies for enhancing coherence times in both 2D and 3D transmon qubits through  
substrate design, structural improvements, and process optimization. Results cor-  
relating processing techniques to decoherence times are presented, and some novel  
structures are proposed for further consideration.

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