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M3Or3I-01: [Invited] Applications of superconducting circuits using hybrid graphene Josephson junctions

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The electronic, thermal and mechanical properties of graphene make it an intriguing choice for the contact material in hybrid Josephson junctions. Work over the past few years has shown that graphene can be used to make high-quality junctions that can be incorporated into devices such as SQUIDs, qubits and bolometers. For some applications there are open questions about the suitability of graphene junctions. In other applications, they have already brought significant improvements in performance. This talk will review recent work on the graphene Josephson junctions, including efforts to improve manufacturability and to explore applications that make use of their additional functionality.

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