

## **Fabrication of rhenium Josephson junctions**

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Rhenium is a hardly oxidizable metal which is often used in superconducting circuits and qubit applications. In this work, superconducting Re/Al-AlO<sub>x</sub>/Re tunnel junctions were fabricated using a selective film-etching process similar to that developed in Nb trilayer technology. The Re films had a superconducting transition temperature of 4.8 K and a transition width of 0.2 K. The junction characteristics had good quality with low leakage current and showed a superconducting gap of 0.55 meV. These junctions were found to be reproducible and stable against thermal cycling.