Neon Focussed-ion Beams for Fabrication of Superconducting Nanowires

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***Abstract*— We have used a neon focused-ion beam to fabricate both nanoscale Nb Dayem bridges and NbN phase-slip nanowires located at the end of quarter-wavelength coplanar waveguide resonators. The Dayem bridge devices show flux-tuneability and intrinsic quality factor exceeding 10,000 at 300 mK up to local fields of at least 60 mT. The NbN nanowires show signatures of incoherent quantum tunnelling of flux at 300 mK.**

***Keywords (Index Terms)* — Nanofabrication, superconducting nanowires, quantum electronics, flux tunneling.**

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