

Abstract Submitted
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Inductive Critical Currents in Nb/Mo bilayers¹ PHILLIP BROUSSARD, JAMES VELDHORST², Covenant College — We have carried out measurements of inductive critical currents in Nb/Mo bilayers. The films were grown by magnetron sputtering onto silicon substrates from separate sources. Sequences with varying either the molybdenum or niobium layer thickness were grown and studied. Inductive critical currents were measured using a third harmonic technique at 1 kHz. J_c varies as $(1 - t)^{3/2}$ as expected from Ginzburg-Landau theory (here t is the reduced temperature, T/T_c). Measurements in low magnetic field (below 120 Gauss) show a marked decrease in J_c with applied magnetic field. We look at various ways to interpret the V_{3f} vs. drive current mentioned in the literature and compare to our results for pure niobium and the bilayers.

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