Abstract Submitted
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FMR Study of Ferromagnetic Stability of Nb/Ni Multilayers and Trilayers[1] WENTAO XU, S. KRYUKOV, LANCE DE LONG, University of Kentucky, CHENGTAO YU, M. PECHAN, Miami University, E. NAVARRO, J. VILLEGAS, E. GONZALEZ, JOSE VICENT, Universidad Complutense, UNIVERSITY OF KENTUCKY TEAM, MIAMI UNIVERSITY COLLABORATION, UNIVERSIDAD COMPLUTENSE COLLABORATION — Ni(y)[Nb(x)/Ni(y)]$_z$ multilayers (ML) with z = 5, 8, and x = 23, 10 nm, and y = 2.5, 3.5, 5 nm, and Nb(x)/Ni(y)/Nb(x) and Ni(y)/Nb(x)/Ni (y) trilayers with x = 23, 200 nm and y = 5 nm, were investigated via FMR above and below the superconducting (SC) transition temperature. Absorption peaks in the SC state of ML broadened and shifted in applied DC field compared to the normal state; however, for y = 2.5 nm ML, the low- temperature resonances were enhanced due to the instability of ferromagnetism in thin Ni layers. The x = 10 nm ML exhibited stronger FMR than the x = 23 nm ML, indicating significant interlayer coupling exists between Ni layers in the SC state. Trilayer samples exhibited additional sharp resonances at low field, as well as a broad feature at higher field, in the SC state.

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