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Electrical Characterization of Superconducting Microbridge Josephson Junctions with Ferromagnetic Strip LUIS GOMEZ, Japan Science and Technology Agency and University of Tokyo, SHINICHI KITAMURA, TAKAHIRO KUBO, HARUHISA KITANO, ATSUTAKA MAEDA, University of Tokyo — We have fabricated high temperature superconductor microbridges where thin ferromagnetic strips, with nanometer size widths, have been deposited across the center of the microbridge. We characterized these devices as a function of temperature, magnetic field, and microwave power and frequency in order to evaluate their potential as Josephson junctions. The devices fabricated until now present promising Josephson-like characteristics and could be regarded as $S - S' - S$ weak links, although their $I - V$'s are flux flow type for all temperatures below T_c . We are currently modifying the bridge as well as the ferromagnetic strip dimensions (width and thickness) in order to improve the shape of the $I - V$'s. In this talk, we will present our results to date.

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