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Tunneling Spectroscopy of Magnetic Excitations in Layered Magnetic Superconductors MARINA HRUSKA, LEV BULAEVSKII, MARTIN MALEY, DARRYL SMITH, Los Alamos National Laboratory — Modeling magnetic layered superconductors as a stack of Josephson-coupled conduction layers, subgap resonances in the I-V characteristics are predicted, as arising from magnetic excitations by Josephson current. We consider two mechanisms of interaction between the interlayer superconducting phase difference and magnetic moments: the spin-assisted cotunneling and the interaction mediated by the AC magnetic field of the moving Josephson vortex lattice. In the former case, the voltage of the kink in the dc I-V characteristic corresponding to the energy of two-spinwave excitations is found, whereas in the latter we obtain a single peak in voltage corresponding to excitation of a spinwave with momentum determined by the applied magnetic field and interlayer spacing.

Marina Hruska
Los Alamos National Laboratory

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