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Electrical Properties of MOOM Junctions Fabricated by Electrochemical Anodization WENBIN FAN, JIWEI LU, STUART WOLF, University of Virginia — Localized electrochemical anodization has been used to prepare metal-oxide-oxide-metal (MOOM) diode-like junctions based on granular oxide-metal tunnel junctions. The room-temperature I-V characteristics of MOOM junctions fabricated by anodized aluminum and tantalum thin films were studied. The asymmetric nonlinear I-V curves indicate they behave as diodes. The diode characteristics are strongly determined by the details of anodization process and the amount of each oxide. The High Resolution Transmission Electron Microscope (HRTEM) is used to explore the structure of the MOOM near the interface of two different oxides. Low temperature electrical properties of the MOOM will be reported.

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