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**Low-temperature transport properties of disordered tantalum and tantalum nitride films** NICHOLAS BREZNAY, MIHIR TENDULKAR, AHARON KAPITULNIK, Stanford University — Tantalum nitride thin films are used in a wide range of electronic applications, such as in thin film resistors and diffusion barriers in silicon microstructures. Growth and thorough characterization of ultrathin tantalum nitride films may prove useful in potential applications and also facilitate the study of disordered, low-dimensional systems. We will discuss the low-temperature transport properties of reactively sputtered tantalum and tantalum nitride ultrathin films as a function of film structure and composition, and connect our results to recent studies of both these and other similar two-dimensional disordered systems.

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