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Point Contact Spectroscopy Study of the New Superconductor Nb2PdxSe5[1] YEPING JIANG, XIAOHANG ZHANG, ICHIRO TAKEUCHI, RICHARD GREENE, Center of Nanophysics and Advance materials (CNAM), University of Maryland, SEUNGHYUN KHIM, BUMSUNG LEE, KEE-HOON KIM, Seoul National University — We have systematically investigated the temperature dependence of the energy gap structure for the new quasi-one-dimensional superconductor Nb2PdxSe5 by point contact spectroscopy (PCS). Our studies were performed on highly transparent Andreev reflection junctions evidenced by sharp and dramatic conductance enhancements at low temperatures. By applying the BTK model, we find that the energy gap scales with the transition temperature (Tc=5.5 K) in a BCS-like manner. Details of this and a few anomalous features of the PCS will be presented.

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