Point-Contact Spectroscopy Study of the Ferromagnetic Superconductor ZrZn$_2$\textsuperscript{1} M.A. TANATAR*, C.S. TUREL, J.Y.T. WEI, Department of Physics, University of Toronto, R.W. HILL, Department of Physics, University of Waterloo, S.M. HAYDEN, H.H. Wills Physics Laboratory, University of Bristol — Superconductivity and ferromagnetism are competing orders, but in ZrZn$_2$ evidence for superconductivity has been observed in the ferromagnetic state \cite{1}. We have performed point-contact spectroscopy measurements on single-crystal samples of ZrZn$_2$ using Au and Pt-Ir tips. We present differential conductance spectra measured down to 100 mK, along with their magnetic-field evolution. Implications of our data on possible pairing symmetry \cite{2} and pairing mechanism \cite{3} will be discussed. *Permanent address: Inst. Surface Chemistry, N.A.S. Ukraine, Kyiv, Ukraine. \cite{1} C. Pfleiderer et al. Nature 412, 58 (2001). \cite{2} M.B. Walker and K.V. Samokhin, Phys. Rev. Lett. 88, 207001 (2002). \cite{3} D.J. Singh and I.I. Mazin Phys. Rev. Lett. 88, 187004 (2002).

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