

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Non-Fermi liquid
behavior in overdoped iron-pnictide $\text{Ba}(\text{Fe},\text{Co},\text{Ni})_2\text{As}_2$ ¹ ALEX HUGHES,
YASUYUKI NAKAJIMA, KEVIN KIRSHENBAUM, SHANTA R. SAHA, TYLER
DRYE, JOHNPIERRE PAGLIONE, Center for Nanophysics and Advanced Mate-
rials, Department of Physics, University of Maryland, College Park, MD 20742 —
Very low-temperature specific heat was used to study a series of single-crystal iron-
based intermetallic compounds with the ThCr_2Si_2 structure with transition metal
substitution used to heavily over-dope the system. This system has been found to
exhibit non-Fermi liquid characteristics in transport, magnetic and thermodynamic
properties. We will present low-temperature specific heat capacity measurements of
this compound in order to elucidate the non-Fermi liquid nature of the ground state
and to help elucidate the origin of these properties and their relation to supercon-
ductivity.

¹This work was supported by AFOSR-MURI FA9550-09-1-0603.

Alex Hughes
Center for Nanophysics and Advanced Materials,
Department of Physics, University of Maryland, College Park, MD 20742

Date submitted: 18 Dec 2012

Electronic form version 1.4