Pairing Operators in Multiorbital Systems\textsuperscript{1} ANDREW NICHOLSON, ADRIANA MOREO, ELBIO DAGOTTO, University of Tennessee and ORNL, MARIA DAGHOFER, IFW Dresden — The discovery of high-$T_c$ superconductivity in the pnictides highlights the need to understand how superconductivity arises in multiorbital systems. In a simple two orbital model we discuss how strong hybridization between orbitals may lead to both intra and interband pairing [1]. Next a three orbital model for the pnictides is considered where hybridization between the As $p$ orbitals and three of the Fe $3d$ orbitals is described via the Slater-Koster approach [2]. Spin-singlet pairing operators allowed by lattice and orbital symmetries are constructed and indexed. It is found that the only fully gapped and purely intraband spin-singlet pairing operator arises if the electrons in different orbitals couple with equal strength to the source of pairing. Other pairing operators are discussed as well, including $S_\pm$. Spectral functions are calculated in both investigations to guide experimental work.


\textsuperscript{1}This work was supported by the NSF grant DMR-0706020 and the Division of Materials Science and Engineering, U.S. DOE, under contract with UT-Battelle, LLC.

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Date submitted: 09 Dec 2009  
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