

Abstract Submitted
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Non-Resonant Raman Scattering in an effective single orbital model of Iron based superconductors CHANDAN SETTY, JIANGPING HU, Purdue University — We investigate non-resonant Raman response of the 122-type Iron pnictide and chalcogenide superconductors using the framework of an effective single orbital model that was recently proposed to capture the essential electronic and magnetic properties of Iron based superconductors. We compute the momentum matrix elements and the resulting Raman vertices exactly (within the tight-binding approximation) for different polarization geometries of the hole/electron doped 122 pnictide and electron overdoped 122 chalcogenide. Our calculations, performed with a simple $\cos k_x \cos k_y$ form for the gap, find good agreement with data reported by Kretzschmar et. al and Muschler et.al

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