Abstract Submitted
for the FWS19 Meeting of
The American Physical Society

$MgO{\cdot}Fe_{E-6}$ and $NbO{\cdot}Fe_{E-2}$ 2D XRD Galileo-Gor'kov conductance[1] JUANA V ACRIVOS[2], San Jose State U Emerita, ANGELICA ALVARADO, SARA CATHERINE WEAVER WARNER, JEFFERY KMIEK, LEI CHEN, SJSU, MS, SJSU TEAM — We investigate doped materials electronic processes, structure, and magnetic properties. Magnetic resonance esr indicates $(Fe,Mn)_{E-6}MgO$, $Fe_{\%}NbO$ stability is by vacancy $\emptyset$ polarized free electrons e_P^-. We describe stability by two energy X-Ray diffraction 2D XRD, SLAC:SSRL BL2.1 Si(111) crystal detected resonance enhanced scans: E→Fe-Mn K-edges, and E+ΔE obtain Bragg: $I(E)_{\nu=0,1,}$ vs. Q,Q*≤60/nm, sideband structure νq_{PLD} (q_{PLD}<0.1/nm) and followed by exited states relaxation coherent stimulated absorption/emission, Compton: I*(E)Q aligned vs. ΔE+E,**p***=Q*-Q. Element $\boldsymbol{e}$ bonds are described by binding state Tables $\boldsymbol{e}(\varepsilon$:nlj) = ΔE5eV,**p*** =Fe;O;Mg;Nb(K,L,M states). The quasi particle, qsp Galileo conductance $\underline{c}_{cr} = \hbar q_{PLD}/m_e^*$, periodic lattice distortion, associated with esr spin-lattice interaction 3a =7μeV, is compared to similar vacancy structures: graphite $C(gr_{a,c})$, magnetite M, Prussian Blue PB, and superconductor SC T_c˜200K oxide, $Bi_{1-x}Pb_{x=0.3}$:Sr:Ca:Cu::2:2:n-1:n≤30: Room T results indicate $\underline{c}_{cr}(C(gr_{c,a}))$ ={40,E3}nm/ps >$\underline{c}_{cr}(Fe_{\%}NbO)$ ˜10nm/ps >$\underline{c}_{cr}$(M) >$c_{cr}(\boldsymbol{e}_{E-6}MgO)$ ˜$\underline{c}_{cr}$(PB) ˜c_{cr}(SC) ˜nm/ps, is achieved through vacancy $\emptyset$ by Pauling ligand strength order: CC>CN^->$O^=$>OH_2 below the atomic limit $\underline{c}_{cr0}$ =$e^2/\hbar$ =2.18nm/fs.

[1]Supported by NSF,Dreyfus Foundation, NATO, DOE@SLAC:SSRL
[2]this abstract is replacing FWS19-2019-000016.

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Date submitted: 23 Sep 2019 Electronic form version 1.4