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Core-hole propagator in Wiener-Hopf sum equation approach NANDAN PAKHIRA, JAMES FREERICKS, Georgetown University — We apply Wiener-Hopf sum equation approach to calculate the propagator for a core-hole, added as an additional localized level to the Falicov-Kimball model. The Wiener-Hopf sum equation approach was resently applied by Shvaika *et. al.* [1] to calculate the finite temperature real time f-electron propagator. We present further iterative improvement of the method and its application to the core-hole propagator. Finally, time permitting, we will show some results on the application of the core-hole propagator on Resonant Inelastic X-ray Scattering (RIXS) spectra.

[1] A.M.Shvaika and J.K.Freericks, Condensed Matter Physics, **11**, 425-442 (2008).

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