

Abstract Submitted  
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**Electron-phonon coupling at the Be(0001) Surface**<sup>1</sup> TIMUR KIM, University of Aarhus, Denmark, PHILIP HOFMANN, University of Aarhus, Denmark, TEYU CHIEN, University of Tennessee, Knoxville TN 37996, HONG LIU, University of Tennessee, Knoxville TN 37996, WARD PLUMMER, University of Tennessee, Knoxville TN 37996 — The temperature dependent angle-resolved photoemission spectrum (ARPES) of the surface state centered at  $\Gamma$  point of Be(0001) surface along the  $\Gamma$ -K and the  $\Gamma$ -M directions have been measured as a function of binding energy and momentum. The surface state centered at  $\Gamma$  point is highly symmetric in reciprocal space. The temperature dependent ARPES data along these two directions were analyzed by means of energy distribution curves (EDCs) and momentum distribution curves (MDCs) with the help of the spectral function. From the analysis, the information yields the magnitude of the imaginary part of the self energy as a function of  $E$  and  $\mathbf{k}$ . Attempts to extract the electron-phonon coupling constant from this data are so dependent upon the model for the phonons and the bare band structure that it is impossible to extract any useful information. But the  $E$  and  $\mathbf{k}$  dependence of the imaginary part of the self-energy can be compared directly to first-principles calculations.

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