Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Photoemission in 5f systems - duality and final state effects[1]

TOMASZ DURAKIEWICZ, JOHN JOYCE, Los Alamos National Laboratory, Los Alamos NM 87545, CLIFFORD OLSON, Ames Laboratory, Iowa State University, Ames IA 50011, ERIC BAUER, Los Alamos National Laboratory, Los Alamos NM 87545, ELZBIETA GUZIEWICZ, Institute of Physics, Polish Academy of Sciences, 02-668 Warsaw, Poland, MARTIN T. BUTTERFIELD, Lawrence Livermore National Laboratory, Livermore, CA 94550, KEVIN GRAHAM, JOHN SARRAO, JOE D. THOMPSON, Los Alamos National Laboratory, Los Alamos NM 87545 —
In recent years, the concept of 5f electron duality started to play important role in our understaning of the electronic structure of actinides. With respect to the photoemission spectra, duality may be seen through the existence of two distinct regions in the valence band. First region, usually in the form of one narrow peak, is located near the Fermi level and represents the itinerant part of the spectral function. Second region, comprising a broad peak of major spectral weight is located a few eV below the Fermi level and corresponds to the more localized part of 5f response. The role of 5f duality in establishing electronic structure will be discussed. Aspects of the relevant final-state effects will also be shown.

[1]Work Supported by the U.S. Department of Energy, Office of Basic Energy Sciences, Division of Materials Science.

Tomasz Durakiewicz
Los Alamos National Laboratory, Los Alamos NM 87545

Date submitted: 20 Nov 2006 Electronic form version 1.4