



Left panel: valence band RIXS spectra of  $\text{UGa}_2$  and  $\text{UB}_2$ . Arrows point out  $ff$  multiplet excitations.

Middle panel: weights in % of  $5f^n$  configuration contributing to the respective ground states according to DFT+DMFT. The red ticks correspond to a statistical distribution (band-like).

Right panel: core level PES of  $\text{UGa}_2$  and  $\text{UB}_2$ . Arrows point out satellites,