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transition point. Either of the two magnetic moments calculated for a = 7.0 a.u. is obtained, depending on the magnitude of the initial assumed magnetic moment in the self-consistency iterations.

- FIG. 5. Cohesive energy calculated for V, as a function of lattice parameter. The error bar indicates the experimental equilibrium lattice constant and cohesive energy, for comparison.
- FIG. 6. Non-magnetic densities of states, showing the increase in the density of states at the Fermi energy which eventually gives rise to magnetic behavior as the lattice parameter is increased further.
- FIG. 7. Magnetic densities of states for a = 8.5 a.u., for majority (α) and minority (β) spin, showing exchange shift between corresponding states with opposite spin, in the magnetic state.
- FIG. 8. Soft X-ray emission spectra from TiC: C K (solid curve), Ti - K (dotted), and Ti-L_{II,III} (dashed) spectra, as reported in references [22], [21], and [23], respectively.
- FIG. 9. Soft x-ray emission spectra from NbC: C K, Nb L_{III}, and Nb - M_{IV.V}, from reference [25].
- FIG. 10. Decomposition of the $\text{Ti}-L_{\text{II},\text{III}}$ emission spectrum from TiC into separate, proportional L_{II} and L_{III} components, separated by the energy splitting between the atomic L_{II} and L_{III} peaks.

- FIG. 11. Experimental C-K emission (smooth curves) from TiC, according to Holliday [22] as reported by Ramqvist et al. [21], and C - & = 1 partial density of states. Dashed curve corresponds to an 0.6 eV adjustment in relative Fermi energies.
- FIG. 12. Experimental Ti-K emission curves and calculated Ti-l = 1partial density-of-states histogram for TiC. Dotted curve is from Nemnonov and Kolobova [26]. Solid is uncorrected and dashed is corrected data from Ramqvist, et al. [21]. Dotdash curve is obtained from shifting dashed curve by 0.6 eV.
- FIG. 13. Ti L_{II} (from Fischer [23]) emission (smooth curves) and Ti- ℓ = 2 curves for TiC. Result of 0.6 eV shift is shown as dashed curve.
- FIG. 14. Comparison of C l = 1 partial density of states (histogram) for NbC with the C-K emission (smooth curve) reported by Ramqvist, et al. [25].
- FIG. 15. NbC Nb L_{III} emission, from Ramqvist, et al. [25], compared with the Nb- ℓ = 2 partial density of states.
- FIG. 16. Partial Nb $M_{IV,V}$ emission, from Holliday [25], and Nb - ℓ = 1 partial density of states. Dashed curve shows correction for apparent spectrometer callibration error, reported by Ramqvist et al. [25]. An additional peak in the spectrum has now been observed [24], in good agreement with the partial-density-of-states peak at about -11 eV. Separation of the two Nb-M peaks shown is also the energy

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