NIST Database says a shift of 0.9eV of Zn(OH)2 compared to metallic Zn

<http://srdata.nist.gov/xps/XPSDetailPage.aspx?AllDataNo=9097>

Citation:  
Author Name(s): Dake L.S., Baer D.R., Zachara J.M.  
Journal: Surf. Interface Anal. 14, 71 (1989)

Wagner Plot and modified Auger parameter:

modified Auger parameter: ’ = Ekin (Augerelectron line) + Ebind (Photoelectron line)

is a parameter resistant to experimental failures

|  |
| --- |
| Zn  Zn(OH)2  ZnO  Al2ZnO4  fitted substance 1  fitted substance 2 |
| Fig. 1: Wagner plot; black symbols represent values for modified Auger parameter ’ from NIST database; red symbols represent calculated Auger parameters from fitted peaks on the Zn 2p scans of sample 2  Source: http://srdata.nist.gov/xps/drawWagnerPlot.aspx?Elm=Al&SelML=Al%7cAl%28OH%293%7cAl2O3%7cAl2O3%2fAl%7cAl2OSiO4%7cAl2Si4O10%28OH%292%7cAl4Si4O10%28OH%298%7cAlAs%7cAlN%7cAlO%28OH%29%7cAlxO%7c |

|  |
| --- |
|  |
| Fig. 2: sample 2; chemical composition in at.% from XPS survey scan peak fitting using only photoelectron peaks: Al (2p, 2s 1/2, 2s 3/2) C (1s), O (1s), Zn (2p 1/2, 2p 3/2, 3p) |

|  |
| --- |
|  |
| Fig. 3: percentage of different fitted chemical states; for Zn data the 2p region has been quantified; the ratios of the Zn 2p 3/2 and Zn 2p 1/2 oxide peaks are 0.5 +/- 0.1 which is in good agreement with the orbital theory; is very noisy; |