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Appearance Potential Study of Ti-Ni Alloys[1] S.H. MCKINNEY, Grayson County College, RICHARD MILLER, A.R. CHOURASIA, Department of Physics, Texas A&M University-Commerce — The electronic structure of Ti-Ni alloys have been investigated by the technique of appearance potential spectroscopy. This technique is sensitive to the density of unoccupied states above the Fermi level and therefore becomes suitable to the investigation of these materials. The Ti 2p and Ni 2p regions have been investigated. The spectral features have been compared with the elemental ones. The density of states for TiNi has also been calculated using the DFT approach implemented in CRYSTAL98. The Becke exchange and the LYP correlation have been utilized. The atomic basis sets have been optimized for this purpose. The projected density of states for Ti and Ni in TiNi have been determined. The comparison between the experimental and theoretical data will be presented.

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