

EFFECT OF DEFORMATION ON SURFACE
CHARACTERISTICS OF FINITE METALLIC
CRYSTALS

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S u m m a r y

The surface stress and contact potential differences of elastically deformed faces of Al, Cu, Au, Ni, and Ti crystals are calculated within the modified stabilized jellium model using the self-consistent Kohn – Sham method. The obtained values of the surface stress are in agreement with the results of the available first-principle calculations. We find that the work function decreases/increases linearly with elongation/compression of crystals. Our results confirm that the available experimental data on contact potential difference obtained for a deformed surface by the Kelvin method correspond to a change of the surface potential rather than to a change of the work function. The problem of 'anisotropy' of the work function and ionization potential of a finite sample is discussed.