

# Turkish Journal of Physics

Turkish Journal

of


Physics

Semi-Infinite Polarized Nuclear Matter with a Seyler-Blanchard Interaction

Hesham Mohamed Mohamed MANSOUR, Khaled Abd El Aziz RAMADAN  
Physics Department, Faculty of Science, Cairo University, Giza-EGYPT

**Abstract:** The surface and curvature properties of semi-infinite polarized nuclear matter (SPNM) are calculated using a modified form of the Seyler-Blanchard potential. The level density parameter is extracted from the free energy using  $T^2$ -approximation. Good agreement is obtained between our calculations for the level density and other parameters which characterize the surface and curvature properties of SPNM and previous theoretical estimates. PACS number(s): 21.65.+f, 21.30.Fe

**Key Words:** Nuclear matter, Free energy, Level density parameters, Seyler-Blanchard interaction

 [Keywords](#)  
 [Authors](#)



[phys@tubitak.gov.tr](mailto:phys@tubitak.gov.tr)

Turk. J. Phys., **27**, (2003), 107-120.

Full text: [pdf](#)

Other articles published in the same issue: [Turk. J. Phys.,vol.27,iss.2.](#)

[Scientific Journals Home](#)  
[Page](#)