

# IS THE ATOMIC METAL VAPOR A DIELECTRIC STATE?

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We propose a simple method for calculating the metal vapor conductivity at the critical point and near-critical isotherms. This method's base is the hypothesis of an electron jellium's existence as an origin of the conduction band in metal vapor's gaseous phase and the "cold ionization" mechanism. The gaseous phase's jellium consists of the wave function tails of bound electrons lying outside the Wigner-Seitz cell (WS). Satisfactory agreement with the experimental data for alkali metals (Cs, Rb) [Hensel, 1980] concludes that the "cold ionization" mechanism is possible in the critical point's vicinity. The liquid metal-dielectric transition, as previously thought, does not occur. It is more accurate to speak about the existence of a transition: a liquid metal — a gaseous metal instead of the metal-dielectric transition and the process of "cold metallization" at compression.