Contribution ID: **38** Type: **not specified**

# Equation of state for vanadium at high energy densities

*Thursday, 30 January 2020 17:55 (25 minutes)*

A new semiempirical equation of state for vanadium is proposed with taking into account melting and evaporation effects. Calculations of thermodynamic characteristics and the phase boundaries of solid, liquid and vapor over a wide range of densities and temperatures are carried out. Comparison of calculated results with available experimental data and theoretical predictions at high energy densities is presented. Obtained multiphase equation of state for vanadium can be used effectively in numerical modeling of processes under conditions of intense pulsed influences on the metal. The work is supported by the Russian Science Foundation (grant No. 19-19-00713).

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**Session Classification:** Modelling HED Physics