ABSTRACT

Nuclear matter at low density and finite temperatures consists not only of nucleons but also of clusters of nucleons. In this work we study the problem of hot charged nuclei immersed in a clustered vapor. These nuclei are treated as hot liquid drops that exist in mechanical, thermal, and chemical equilibrium with the surrounding vapor. The effect of inclusion of clusters in the vapor on the limiting temperature and on the instability of hot nuclei is investigated. It was found that the existence of clusters in the vapor lowers the limiting temperature by several MeVs.