

A model for the plasma-vacuum interface

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Starting from the 2-fluids Euler system (for the electrons and the ions) coupled with the Poisson equation, the quasineutral asymptotics is performed. Through this analysis, a model for the plasma-vacuum interface is obtained. When an external field is applied, the plasma-vacuum interface motion is different from the standard fluid-vacuum case, because particle emission from the interface occurs. We shall demonstrate the validity of the formal asymptotic analysis by showing numerical comparisons with the original two-fluids Euler Poisson problem.