Abstract Submitted for the MAR09 Meeting of The American Physical Society

Internal inconsistency of Kohn-Sham equations in density-functional-theory¹ BOYAN OBRESHKOV — The conflict of DFT Kohn-Sham equations with the Ritz variational principle will be demonstrated rigorously. It will be shown that the ground-state charge density of the material is not representable by auxiliary one-electron orbitals of variational character. This inconsistency is also expressed by a charge-sloshing effect in attempt to solve these equations self-consistently.

[1] B. D. Obreshkov, submitted to Phys. Rev. A (2008).

¹Supported by NERSC Arkansas-Oklahoma.

Boyan Obreshkov Department of Physics, University of Arkansas, Fayetteville 72701

Date submitted: 03 Dec 2008 Electronic form version 1.4