

Theoretical Studies on New Rare-Gas Compounds

N. Runeberg

Department of Chemistry, P.O. Box 55 (A.I. Virtasen aukio 1),
FIN-00014 University of Helsinki, Finland. email runeberg@chem.helsinki.fi

The nature of the bonds in the recently observed hydridoargon fluoride, HArF, will be discussed[1,2], and theoretical results for similar valence-isoelectronic systems, such as HHeF[3], will be presented. We will also analyze the recently observed interaction between argon and coinage-metalhalides[4]. Different methodological aspects involved in these rather challenging theoretical studies will also be discussed.

1. L. Khriachtchev, M. Pettersson, N. Runeberg, J. Lundell, and M. Räsänen, *Nature*, 406:874, 2000.
2. N. Runeberg, M. Pettersson, L. Khriachtchev, J. Lundell, and M. Räsänen, *J. Chem. Phys.*, 114:836, 2001.
3. M. W. Wong, *J. Am. Chem. Soc.*, 122:6289, 2000.
4. C. J. Evans, A. Lesarri, and M. C. L. Gerry, *J. Am. Chem. Soc.*, 122:6100, 2000.