Noble Gas Chemistry: Structure, Bonding, and Gas-Phase Chemistry

Felice Grandinetti

DESCRIPTION

Authored by one of the world's leading experts in the chemistry of lighter noble gases, this comprehensive monograph fills the need for an up-to-date review of the diverse experimental techniques and theoretical methods currently in practice.

After reviewing the experiments breaking the paradigm of "non-reactive" noble gases, the physico-chemical background is introduced. Besides the emphasis on gas phase reactions, the author presents other relevant systems, such as chemistry in the bulk phase, under high pressure, and cold matrices. The discussion of gas-phase chemistry of the noble gases covers neutral and ionic compounds, diatomic molecules, complexes with small molecules and metal compounds, up to large clusters.

ABOUT THE AUTHOR

Felice Grandinetti is professor at the Department for the Innovation in Biological Systems, Food and Forestry (DIBAF) of the University of Tuscia in Viterbo, Italy. Having obtained his academic degrees from the Sapienza University of Rome, he spent his academic and scientific career working for the Italian National Council of Research (CNR) before taking up his present appointment as Professor of General and Inorganic Chemistry at the University of Tuscia. His research activity (accounted in nearly 120 publications) is generally devoted to the experimental and theoretical study of the gas-phase chemistry of inorganic species, and is currently mainly focused on molecules and ions containing noble gas atoms.