Inert Gases: Potentials, Dynamics, and Energy Transfer in Doped Crystals; 268 pages; Springer Science & Business Media, 2012; 9783642822216; 2012; M.L. Klein

Book of abstracts XIV International Feofilov symposium on spectroscopy of crystals doped with rare earth and transition metal ions (Sankt-Petersburg October 18-21, 2010).

Critical Phenomena and Femtosecond Ordering Dynamics Associated with Electronic and Spin Ordered Phases in YVO₃ and GdVO₃

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Luminescence and energy transfer in RE₃⁺:KPb₂Cl₅ crystals at UV Aussenegg. A. Leitner, M.E. Lippitsch

34 Inert Gases Potentials, Dynamics, and Energy Transfer in Doped Crystals. Editor: M. L. Klein

35 Chemistry and Physics of Solid Surfaces V Editors: R. Vanselow, R. Howe


1.2 Research with Inert Gases

1.3 Outline of the Present Book

References

2. Interatomic Potentials for Rare-Gases: Pure and Mixed Interactions

By R.A. Aziz (With 38 Figures)

Interatomic potentials derived from gas viscosity data. This theme was taken up again many years later by Barker and his co-workers [1,43] and eventually led to the determination of realistic interatomic potentials for the inert gases. In physics, potential energy is the energy held by an object because of its position relative to other objects, stresses within itself, its electric charge, or other factors. Common types of potential energy include the gravitational potential energy of an object that depends on its mass and its distance from the center of mass of another object, the elastic potential energy of an extended spring, and the electric potential energy of an electric charge in an electric field. The unit for energy in the Total energy = kinetic energy (positive by definition) + potential energy (sign depends on the sign of the potential). So if they are between 1 and 2 on the horizontal axis in the attached figure, the previous addition will become subtraction. In order to make the molecules free their total energy has to be positive which means their kinetic energy has to exceed their potential energy.

The kinetic energy in the molecules of gas is higher than that of attractive forces or intermolecular attraction (speaking in terms of physics) in these cases the molecules are set in motion.