Special Issue

Radiative Processes in Quantum Electrodynamics: Theory, Experiments and Applications

Message from the Guest Editors

The main aim of this Special Issue is to give an overview of new theoretical and experimental progresses on radiative processes by atoms or molecules, such as resonant and dispersion van der Waals/Casimir interactions, resonant energy transfer, and collective spontaneous emission, both in static and dynamical situations. Applications to nanotechnologies will be also considered. Topics will include:

- Van der Waals and Casimir dispersion interactions (theory and applications)
- Dynamical Casimir and Casimir–Polder effect
- Resonant interactions and resonant energy transfer in structured environment (such as photonic crystals, waveguides, cavities, and nanostructured materials)
- Collective spontaneous emission of atoms in structured environments
- Radiative processes in dynamical structured environments
- Casimir effects out of thermal equilibrium
- Casimir forces in micro- and nano-electromechanical system
- Dispersion and resonance interactions in biological systems
- Optomechanical systems
- Casimir friction
- Casimir torque
- Heat transfer

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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