

Special Issue on Short Range Phenomena: Modeling, Computational Aspects, and Applications

Call for Papers

In recent years, the mathematical formalism of impulsive systems (based on impulsive differential equations) has tried to join together the rigorous aspects from continuous systems formalism and the wide range of applications of discrete systems formalism. They were introduced to handle many evolution processes which are subject to singular short-term perturbations. Abrupt changes must be approached with mathematical and technical aspects dealing with the final evolution of such impulsive sources, whose effects are entirely transferred to the new state of the systems like transitions in quantum mechanics. Modern aspects in physics (quantum theory) and mathematics (wavelets, fractal theory) should be expedient in modeling short range phenomena and describing dynamics of perturbations and transitions in natural systems (advanced materials science) and advanced systems (optic, electronic, and quantum devices).

Thus, a special issue on all theoretical, computational, and practical aspects of modeling short range phenomena would be an opportunity of extending the research field of wavelets analysis, fractal theory, and applied mathematics (signal processing, control theory) for presenting new fundamental aspects in science and engineering. We are soliciting original high-quality research papers on topics of interest connected with modeling short range phenomena that include but are not limited to the following main topics:

- Mathematical aspects of pulse generation
- Dynamical and computational aspects of pulse measurement
- Wavelets analysis of localized space-time phenomena
- Stochastic aspects of pulses, sequences of pulses and time series

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tem at <http://mts.hindawi.com/>, according to the following timetable:

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