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Special issue celebrating the 20th anniversary of quantum state engineering


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Special issue celebrating the 20th anniversary of quantum state engineering

Guest Editors

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Your invitation to submit. Journal of Physics B: Atomic, Molecular and Optical Physics (JPhysB) is delighted to announce a forthcoming special issue celebrating the 20th anniversary of quantum state engineering, to appear in the spring of 2013, and invites you to submit a paper.

Although the primary concepts of quantum mechanics have been discovered about a century ago, it is only recently that we have learned to exercise active control over the coherent dynamics of various quantum-mechanical systems. This development gave rise to the field of quantum state engineering, which studies techniques of preparation, manipulation and characterization of arbitrary pure states within a particular Hilbert space. This special issue is dedicated to the 20th anniversary of this rapidly developing field and aims to present a comprehensive account of its current state. We are soliciting contributions presenting the newest theoretical and experimental accomplishments, enabling technologies, decoherence control, quantum processing and quantum state characterization methods, as well as potential applications of quantum state engineering for practical purposes. The physical systems of interest include, but are not limited to

- Traveling optical modes
- Cavity quantum electrodynamics
- Superconducting devices
- Opto- and nanomechanical systems
- Atomic ensembles
- Trapped ions

You are invited to submit your article by 1 November 2012. Submissions received after this date will be considered for the journal, but may not be included in the special issue. All submitted articles will be fully refereed to the journal’s usual high standards and corresponding authors whose articles are published in the special issue will receive a complimentary copy. Upon publication, the issue will be widely promoted to the atomic, molecular and optical physics community, ensuring that your work receives maximum visibility.