

Materials Focus (www.aspbs.com/mat)

“Physical Properties of Low Dimensional Heavily Doped Materials”

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It is well known that heavy doping and carrier degeneracy are the keys to unlock the important properties of modern low band-gap semiconducting materials and they are especially instrumental in dictating the characteristics of Ohmic and Schottky contacts respectively. It is an amazing fact that although heavily doped materials (HDM) have been investigated in the literature, the study of carrier transport in such compounds through proper formulation of the Boltzmann Transport Equation (BTE) which needs, in turn, the corresponding HD carrier energy spectra is still one of the open research problems. This is very important since investigations of the quantum transport in modern quantum effect heavily doped devices is controlled by BTE which can, in turn, be solved if and only if the Dispersion Relations of heavily doped low dimensional materials are known. The detailed investigations of 3D, 2D, 1D and 0D heavily doped III-V, II-V, II-VI, IV-VI, nonlinear optical, GaP, PtSb₂, stressed materials, GaSb together with the various types of HD superlattices and their quantized counterparts occupy a central position in the whole arena of materials and related sciences. Besides with the advent of nano-photonics, there has been considerable interest in studying the optical processes in heavily doped nanostructure materials on the basis of the fact that the carrier energy spectra are invariant quantities in the presence of intense light waves which is fundamentally not true. This special issue will be solely devoted to Physical Properties of Low Dimensional Heavily Doped Materials. Emphasis will be on both theoretical and experimental research works leading to new concepts. We invite the submission of original full-length research articles and short communications for rapid publication on the aforesaid fields and related disciplines

Manuscript Submission

Manuscripts must be prepared according to Journal's guidelines, available at <http://www.aspbs.com/jnan/>.

Submit your manuscripts in MS word or PDF format online to any of the following email addresses. In the cover letter, please mention that the manuscript is submitted for the special issue. All papers submitted to this issue will be subject to a strict peer review process to ensure high quality articles. Please also mention in the cover letter that the submitted paper has not been published previously and is not currently submitted for review to any other journal and will not be submitted elsewhere before a decision is made by this journal.

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Important Dates

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Review completed:

October 01, 2015

Final Submission:

December 01, 2015

Publication Date:

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