

Journal of Nanoengineering and Nanomanufacturing
A Special Issue on
“Screening Length in Nano Materials”

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It is well known that the **Screening Length (SL)** of the carriers in nano materials is a very important quantity characterizing the screening of the Coulomb field of the ionized impurity centers by the free carriers. It affects many of the special features of modern Quantum Effect-devices, the carrier mobilities under different mechanisms of scattering, and the carrier plasmas. The SL is a very good approximation to the accurate self-consistent screening in presence of band tails and is also used to illustrate the interaction between the colliding carriers in Auger effect in solids. In the conventional form, the SL decreases with increasing carrier concentration at a constant temperature and this relation holds only under the condition of carrier non-degeneracy. It is interesting to note that the under the condition of extreme degeneracy, the result is independent of temperature, Since, the performance of the nano devices at the device terminals and the speed of operation of modern switching transistors are significantly influence by the degree of carrier degeneracy present in these devices, the simplest way of analyzing such devices taking into account of the degeneracy of the band is to use the appropriate SL to express the performance at the device terminal and switching speed in terms of the carrier concentration .

The Nano Materials occupy a central position in the entire arena of Nanoengineering and Nanomanufacturing in general, by their own right and find extensive applications. This special issue focuses on **“Screening Length in Nano 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/mat](http://www.aspbs.com/mat) Submit your manuscripts in MS word or PDF format online to any of the following email addresses or can be submitted online through manuscript tracking system. 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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