

Glessuw

The Glessuw software provides code to calculate the retarded and less-than Green's function for a two-dimensional device with a rectangular grid. The input required to the code is a user supplied nearest-neighbor Hamiltonian. The code is written to run on matlab and automatically does the graph partitioning. This code is based on the nested dissection method and can handle the rectangular grids in reference [1]. More complex grids require coupling of the code to METIS. Users will be able to see a speedup of up to ten times in calculations of Gless when compared to the recursive method [2].

For Descriptive and Technical Information: glessuw@uw.edu

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References

1. Ulrich Hetmaniuk, Yunqi Zhao, M. P. Anantram(2013) , [1] A nested dissection approach to modeling transport in nanodevices: Algorithms and applications, International Journal for Numerical Methods in Engineering, 95, 587-607
2. A. Svizhenko, M. P. Anantram, T. R. Govindan, B. Biegel and R. Venugopal, J.(2002) , [2] Two Dimensional Quantum Mechanical Modeling of Nanotransistors, Appl. Phys., 91, 2343

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