NEMESYS: Non Equilibrium dynamics Models and Excited state properties of low dimensional SYStems

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Progress in 2018

We studied Biosensors based on Carbon Nanotubes and Few Layered Graphene. We demonstrated the appearance of an energy gap and the electrical conductance of graphene, depending on the ordering of impurities. We studied the electronic properties in the microwave frequency range of composite materials based on nanocarbon inclusions. We studied the behavior of Graphene in the Microwave and Terahertz ranges.

List of Conference Talks in the Year 2018

S. Bellucci, Microwave-photonic devices and biosensors based on Graphene Nano Platelets. NATO Advanced Research Workshop on Nanostructured Materials for the Detection of CBRN, Minsk, Belarus, 4-8 June 2018

S. Bellucci, On the appearance of an energy gap and the electrical conductance of graphene, depending on the ordering of impurities, Workshop “Is quantum theory exact? The quest for the spin-statistics connection violation and related items”, Laboratori Nazionali di Frascati INFN, 2-5 July 2018

S. Bellucci, Few-layered graphene platelets for microwaves and (bio)sensors applications, Bilateral Workshop "3D Graphene: From fundamental properties to applications" (Rome/Frascati - October 1-2, 2018)

S. Bellucci, Graphene Microwave Applications, Workshop on Domes for the Defense Systems, Roma, Italy, 24 May 2018

Publications by LNF Authors in the Year 2018

[1] S. Bellucci (2018) Development of Biosensors Using Carbon Nanotubes and Few Layered Graphene. In: Bonča J., Kruchinin S. (eds) Nanostructured Materials for the Detection of CBRN.

NATO Science for Peace and Security Series A: Chemistry and Biology. Springer, Dordrecht

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[11] A Lobko, V Kazhuro, N Valynets, S Bellucci, A Celzard, J Zicans, P Kuzhir, Radiation modification and radiation hardness of microwave properties for some polymer nanocomposites under Co-60 gamma irradiation, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms 435 (2018), 242-245

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Microwave Range, Materials 11 (2018), 2519

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