

Faculty of Physics and Earth Science
MQF-Group

MaReMaS-Seminar
Magnetic Resonance and Materials Science

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Functional Nanomaterials based on Silicon Carbide – Electronic and Optical features

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Silicon carbide nanomaterials attract a great interest with regard to the potential applications in electronics and optics. In such nanosized materials, the interface features play key role on the physical responses and a rigorous control of the surface composition and structure is required to realize suitable functionalities. In this aim, several approaches were developed to create functional nanocomposites (organic-inorganic and inorganic-inorganic architectures) with original electronic, optical and electro-optical responses. Thus, electro-optical behaviours were created by using nanoparticles as chromophores located in polymer host matrixes. An other challenge was devoted to create hybrid core-shell nanocomposites based on SiC nanoparticles and conducting polymers. Beyond to draw, from these architectures, functionalities such as photoluminescence, electroluminescence or non-linear optical susceptibilities, the challenge consists in elucidating the interactions at the interfaces between the nanoparticles and the surrounding media.

All interested parties are welcome.
Prof. Dr. Jürgen Haase