- **"Nanocomposites and nanomaterials"**

Sonochemical synthesis of SiO_2

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Silicon dioxide SiO_2 makes up almost 90 percent of the Earth's crust, it is contained as the base element in many minerals and construction materials, in particular, glass, brick, and concrete. The electronic revolution, transition from vacuum electronics to solid state electronics, is mainly based on the advances made in silicon planar technology using a unique "silicon–thermal silicon dioxide" system. More than 99 percent of all semiconductor devices fabricated on silicon. Thermal silicon dioxide SiO_2 is the key insulation silicon devices [1].

The most popular procedure for synthesis of SiO_2 is a sol-gel technic [2]. For the other hand sonochemistry open new approach for synthesis of nanosized materials. The main effect of sonochemistry is cavitation.

For synthesis of silicon dioxide used a silicon carbide and distillate water. The formation of silicon dioxide reaction can be present follow:

Figure 1 present FTIR spectra of synthesized silicon dioxide. On the FTIR spectra observed typical peaks for silicon dioxide.

Figure 1. FRIR spectra of sonochemically synthesis silicon dioxide.

[1] S. S. Nekrashevich and V. A. Gritsenko, Phys. Solid State **56**, 207 (2014).
[2] R. K. Nariyal, P. Kothari, and B. Bisht, Chem. Sci. Trans. **3**, 1064 (2014).