Programme & The Book of Abstracts

Twentieth Annual Conference

YUCOMAT 2018

Herceg Novi, Montenegro, September 3–7, 2018

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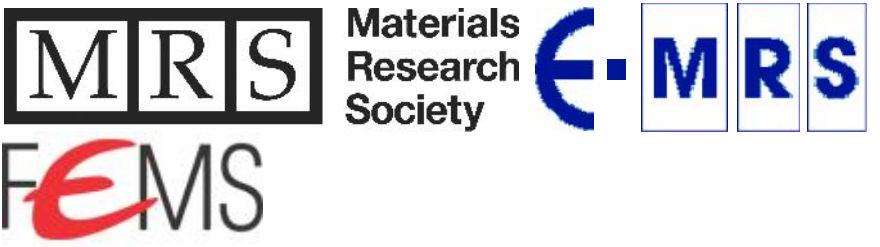

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Shungite - a russian mineral: possible application as a microwave absorber

Nina Obradović[1], Mihajlo Gigov[2], Aleksandar Đorđević[3], Frank Kern[4], Svetlana Dmitrović[5], Branko Matović[5], Antonije Đorđević[6,7], Vladimir Pavlović[1]
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The paper presents results of investigation of the influence of mechanical activation of shungite, a Russian natural mineral rich in silica and carbon, on its sintering behavior. The mechanical activation of the starting powder was performed in a high-energy ball mill in time intervals from 0 to 480 minutes. The phase composition of the starting mixtures and sintered samples was analyzed by the X-ray diffraction method. The scanning electron microscopy was performed in order to determine changes in the microstructure. Sintering was performed at various temperatures for 2 h, in an Ar and vacuum atmosphere. Dielectric properties of the sintered samples were measured in the frequency range from 1 to 500 MHz. The obtained results indicate that sintered shungite powder is a good candidate for applications as an absorber of electromagnetic waves in microwave engineering.

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