

# Electrical Conductivity of SiC/Si Composites Obtained from Wood Preforms

Marco Antonio Béjar, Rodrigo Mena, and Juan Esteban Toro

Department of Mechanical Engineering, University of Chile, Casilla 2777, Santiago 6511265, Chile

Reprint requests to M. A.; Tel.: +56 2 9784594; fax: +56 2 6896057. E-mail: abejar@ing.uchile.cl

Z. Naturforsch. **66a**, 134 – 138 (2011); received April 15, 2010 / revised June 4, 2010

Biomorphic SiC/Si composites were produced from pine and beech wood, and the corresponding electrical conductivity was determined as a function of the temperature. Firstly, wood preforms were pyrolyzed at 1050 °C in nitrogen. Then, the pyrolyzed preforms were impregnated with liquid silicon and kept at 1600 °C for 2 h in vacuum. The SiC/Si composites were obtained due to the produced carbothermal reaction. As expected, the resulting electrical conductivity of these composites increased with the temperature and with the silicon content.

*Key words:* Biomorphic; Bioceramics; SiC.