

## **Silicon goes thermoelectric**

Miroslav Očko<sup>1</sup>, Sanja Žonja<sup>2</sup>, Mile Ivanda<sup>3</sup>

<sup>1</sup> *Institute of Physics, Bijenička cesta 46, HR-10002 Zagreb, Croatia*

<sup>2</sup> *Faculty of Electrical Engineering and Computing, University of Zagreb, Unska 3, HR-10000 Zagreb, Croatia*

<sup>3</sup> *Rudjer Bošković Institute, Bijenička cesta 54, HR-10002 Zagreb, Croatia*

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We discuss on the possibility that boron and phosphorous heavily doped silicon can/could be applied as a working material in thermoelectric (TE) devices. The cheapness and the availability of the ingredients combined with the relative simplicity of production all go in favour to their application. Also, some recently published works indicate enhancement of TE figure of merit,  $Z$ , by lowering grain size of polycrystalline samples and dimensionality. We are also presenting some of our very recent investigations on the Si:B system near MIT. The results are interesting just in terms of TE properties.

Content:

- a) the problem of silicon as thermoelectric,
- b) the newest results,
- c) heavily boron doped silicon - high concentrations (our investigations),
- d) heavily phosphorous doped silicon - high concentrations (our investigations),
- e) heavily boron doped silicon - near MIT (our investigations),
- f) ferroelectrics.