**Er-doped oxidized porous silicon waveguides**

**Balucani M. «Foreign» 1**

**Bondarenko V. 2**

**Lamedica G. «Foreign» 3**

**Ferrari A. «Foreign» 4**

**Yakovtseva V. 5**

**Dolgyi L. 6**

**Vorozov N. 7**

**Volchek S. 8**

**Petrovich V. 9**

**Kazuchits N. «Foreign» 10**

5, 6, 7, 8, 9 Belarussian State University of Informatics and Radioelectronics

**Abstract.** The present work reports Er-doped channel oxidized porous silicon waveguides (OPSWG) formed from n+-type Si by the two-step anodisation process. Er has been introduced into porous silicon before oxidation by a cathodic treatment in 0.1 M Er (NO3)3 aqueous solution. A correlation between Er concentration and refractive index profiles has shown dominant core doping with Er relative to cladding regions. Reported Er concentration of 0.8 at.% in the OPSWG is large enough to attain the amplification effect.

**Keywords:** Erbium; Porous silicon; Optoelectronic devices.

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