

Wide-range non-contact fluorescence intensity ratio thermometer based on Yb³⁺/Nd³⁺ co-doped La₂O₃ microcrystals operating from 290 to 1230 K

Guojun Gao^{1*}, Dmitry Busko¹, Sandra Kauffmann-Weiss², Andrey Turshatov¹, Ian A. Howard^{1,3} and Bryce S. Richards^{1,3*}

¹ Institute of Microstructure Technology, Karlsruhe Institute of Technology, 76344 Eggenstein-Leopoldshafen, Germany

² Institute of Technical Physics, Karlsruhe Institute of Technology, 76344 Eggenstein-Leopoldshafen, Germany

³ Light Technology Institute, Karlsruhe Institute of Technology, Engesserstrasse 13, 76131 Karlsruhe, Germany

* Corresponding authors: Dr. G. Gao: guojun.gao@kit.edu; Prof. B.S. Richards: bryce.richards@kit.edu

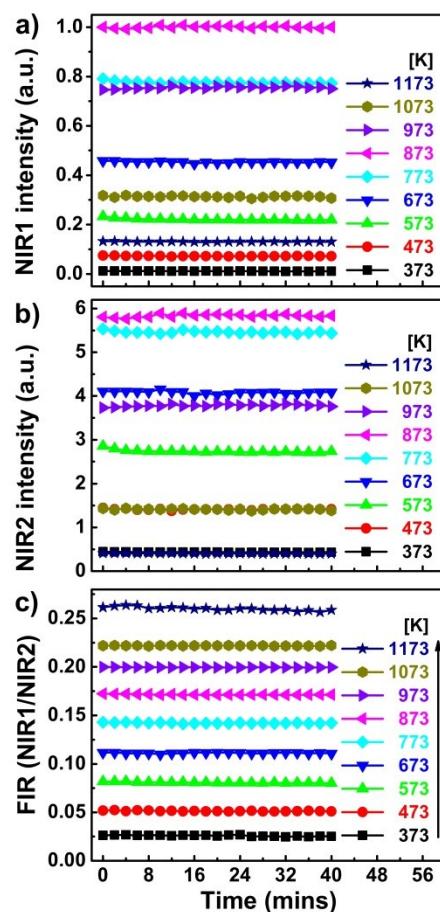


Figure S1. Repeatability of integrated intensity of a) NIR1 and b) NIR2, and c) FIR of NIR1/NIR2 with time over 40 mins at varies temperatures.