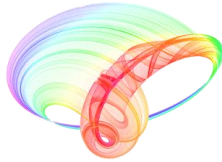


# Book of abstracts



## PHOTONICA2019

The Seventh International School and Conference on  
Photonics, 26 August – 30 August 2019, Belgrade, Serbia

& Machine Learning with Photonics Symposium  
(ML-Photonica 2019)



& ESUO Regional Workshop



& COST action CA16221



Editors: Milica Matijević, Marko Krstić and Petra Beličev

Belgrade, 2019

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CENTER FOR THE PROMOTION OF SCIENCE

## Ultrafast High-Field THz beamline at X-ray FEL

R. Pan<sup>1</sup>, E. Zapolnova<sup>1</sup>, T. Golz<sup>1</sup>, M. Rabasovic<sup>2</sup>, A. Krmpot<sup>2</sup>,  
J. Petrovic<sup>1,3</sup>, M. Gensch<sup>4</sup>, and N. Stojanovic<sup>1</sup>

<sup>1</sup>*DESY, Hamburg, Germany*

<sup>2</sup>*Institute of Physics Belgrade, Belgrade, Serbia*

<sup>3</sup>*Vinca Institute of Nuclear Sciences, Belgrade, Serbia*

<sup>4</sup>*Institute of Physics, Belgrade, Serbia*

<sup>4</sup>*Technical University of Berlin, Berlin, Germany*

e-mail: nikola.stojanovic@desy.de

THz sources at FLASH utilize spent electron beam from a soft X-ray FEL to generate very intense (up to 150 $\mu$ J), tunable frequency (1-300THz) and ultrafast narrowband ( $\sim$ 10%) THz pulses, which are naturally synchronized to soft X-ray pulses [1]. This unique combination allows for wide range of element specific pump-probe experiments in physics, material science and biology.

Here we discuss the unique features of the FLASH THz pulses and the accelerator source that bring along a set of challenges in the diagnostics of their key parameters: pulse energy, spectral, temporal and spatial profiles.

### REFERENCES

[1] R. Pan et al., J. Synchrotron Rad. 26, (2019).