

Report from abroad travel

1. **Full Names:** Krzysztof Tyrała
2. **Organizational Unit:** Jan Kochanowski University in Kielce
3. **Travel purpose:** Participation in DESY Photon Science/*XFEL* Users Meeting conference
4. **Country and area target:** DESY , Hamburg Germany
5. **Duration of travel:** 24-27.01.2017
6. **The task / achievement:**

The purpose of this travel was to participant *in* DESY Photon Science/*XFEL* users meeting conference, that took place at DESY in Hamburg, Germany. At the conference, the poster was presented with title: '*Exploring saturation effect with ultraintense X-ray pulses*' (Poster is attached to this report). The poster contained data calculated from time dependent rate equations for four-level atomic system for sequential two photon absorption processes. Based on this equation the rates for virtual, intermediate and final state was calculate. By using calculated values of the rates for different pulse intensities, the saturation regime was predicted to occur at intensity in approx $2.1 \cdot 10^{33}$ photons/cm²s. Participation and poster itself was related to project OPUS no. 622036.

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Date and signatures