



POZNAN UNIVERSITY OF TECHNOLOGY DOCTORAL SCHOOL

The result of the mid-term assessment together with the justification

Wynik oceny śródkresowej wraz z uzasadnieniem



for the period 01.10.2020 to 31.08.2022

Jan Raczyński

the doctoral student at PUT Doctoral School / doktorant Szkoły Doktorskiej PP

discipline of science / dyscyplina naukowa: **inżynieria materiałowa / materials engineering**

The result of assessment / Wynik oceny

Positive / Pozytywna*	Negative / Negatywna*
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Justification / Uzasadnienie

1. Scientific report delivered by M.Sc. Jan Raczyński in the parts 2&3 proves that realization of his IRP is appropriately advanced to the time used for its realization and it is estimated to be about 40%. Characterization of the crystal and thin films of the PtSe₂ deposited on the insulating substrate, and determination of the physical properties of the metal/PtSe₂ interfaces were the aims of his research. Most of the points presented in the IRP were realized, including the determination of the physical properties of the PtSe₂ layers, elaboration of the method of fabrication and growth of PtSe₂ flakes, and their structurization. These investigations allowed also the selection of the optimal material for the buffer electrode layer (Pd). Besides the AFM and SEM measurements M.Sc. J. Raczyński realized extended characterization of his samples using Raman Spectroscopy for layers with thicknesses in the range from 1-10 ML PtSe₂. Using a correlation diagram, qualitative effects related to doping and stress were determined, and the data were compared with the PtSe₂ bulk data and discussed.
2. Scientific achievements reported in the Part 4th and other activities directly related to implementation within doctoral dissertation were also positively assessed. M.Sc. J. Raczyński has prepared the manuscript summarizing his up to date results, and it has been submitted to the Materials Science & Engineering B journal, however still it waits for an acceptance. He has also given 2 talks during national and international conferences. The internship NAWA project has been prepared. It is under the final consultation with the IHP Institute in Germany, and the submission is scheduled on 15/09/2022.
3. The obtained scientific results up to now, after publishing at JCR journal, should give a very good base for preparing a grant application by M.Sc. Jan Raczyński as the project head.
4. His Presentation of Achievements was very well prepared and delivered, and answers to all questions satisfied all members of the Commission.

On behalf of the Commission / Za Komisję

September 12th, 2022 r.

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Date

Ryszard Czajka
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Legible signature of Head of Commission

* delete as appropriate / niepotrzebne skreślić