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## Report on Habilitation Thesis

Candidate: *Mgr. Martin Gális, PhD.*

Title: *Numerical Simulation of Earthquake Rupture and Seismic Wave Propagation*

Mgr. Martin Gális, PhD. is employed since 2017 as research fellow at the Faculty of Mathematics, Physics and Informatics (FMPI) of the Comenius University in Bratislava. From 2012 till 2017 he worked 5 years as post-doctoral fellow at the King Abdullah University of Science and Technology in Saudi Arabia. His long-term interests are numerical simulations in seismology, including both methodological development of new approaches and their applications. In particular, he focused on the important problem of rupture propagation. He published a total of 20 papers in scientific journals resulting in 1161 citations and Hirsch index of 14 (Google Scholar as of 24 May 2021). These scientometric parameters far exceed the requirements of the FMPI for habilitation in Physics.

In his Habilitation Thesis he presents a selection of 9 representative papers covering the period 2007 - 2019. They were published in high-quality journals including *Geophys. Res. Lett.*, and *Science Advances*. The selection also includes an extended review paper published in *Acta Physica Slovaca* in 2007 (a 230-page monograph-like paper). Besides papers he is also co-author of the book *The Finite-Difference Modelling of Earthquake Motions: Waves and Ruptures* published in 2014 in Cambridge University Press.

He participated in number of international and national projects. His teaching activities include a number of Master courses given at FMPI.

Based on the above facts there is no doubt that Mgr. Martin Gális, PhD. represents a mature scientist and fulfils all requirements for Associate Professor of Physics. I am convinced that his habilitation would strongly contribute to further development of scientific and teaching activities at FMPI. After successful defense of his Habilitation Thesis I strongly recommend to award him the scientific-pedagogical degree Associate Professor.

Bratislava, 24 May 2021

Roman Martoňák