

QuViS Applets in Czech

Friday 8 September 2023 11:15 (30 minutes)

The collection of QuVis applets [1] is based on research on frequent student difficulties, and their design and effectiveness have been also verified [2]. The concept of these applets fits very well into our undergraduate Introductory Course of Quantum Physics for pre-service physics teachers. However, due to the applets being in English, we recognized the language barrier as an obstacle for some students when working independently with them. Moreover, we believe that a solid grasp of Czech terminology is important for future teachers. These reasons led us to translate selected applets into Czech.

With the permission of their authors, we have translated 20 applets and made them available on the FyzWeb server [3]. The topics covered include Classical systems, Basic concepts, One-dimensional potentials, Two-dimensional potentials, Momentum and spin, and Entanglement and quantum information. To further enhance the collection, we are developing thematic worksheets that feature tasks using the selected applets alongside tasks that are solved without their use. Up to now, we have published five worksheets focusing on measurement in quantum physics [3, 4]. Our activities will be presented in a conference poster.

[1] <https://www.st-andrews.ac.uk/physics/quvis/> [online, cit. 23. 6. 2023]

[2] A. Kohnle et al. Am. J. Physics 80, 148 (2012)

[3] <http://fyzweb.cz/materialy/kvantovka/> [online, cit. 23. 6. 2023]

[4] M. Landa. Úlohy pro práci s aplety - axiom o měření v kvantové mechanice. Praha, 2021. Bakalářská práce. Univerzita Karlova, Matematicko-fyzikální fakulta, Katedra didaktiky fyziky. Vedoucí práce Koupilová, Zdeňka. <https://dspace.cuni.cz/handle/20.500.11956/152542> [online, cit. 23. 6. 2023]

Contribution categories - primary focus

University

Contribution categories - type

Application (shared experience, activity suggestions)

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