

Artificial Intelligence-assisted study of light diffraction: from observation to prediction

Aurelia-Daniela FLORIAN¹ and Gabriel FLORIAN^{1,2*}

¹ National High School “Carol I”, 200418, Craiova, Dolj, Romania

² Dolj County School Inspectorate, 200760, Craiova, Dolj, Romania

*Corresponding author e-mail: gabiflorian@yahoo.com

Abstract

This study presents new approaches to the phenomenon of light diffraction, combining traditional methods of physical investigation with modern Artificial Intelligence (AI) tools. The integration of AI in the study of wave optics allows an interdisciplinary approach that contributes to the development of STEM skills, stimulates scientific curiosity and gives the student the possibility to visualize, simulate and interpret complex phenomena with the help of digital technologies.

Keywords: Wave Optics, Light Diffraction, Artificial Intelligence.

Reference:

- [1] Rane, N., Choudhary, S., & Rane, J. (2023). Education 4.0 and 5.0: Integrating artificial intelligence (AI) for personalized and adaptive learning.
- [2] Khonina, S. N., Kazanskiy, N. L., Efimov, A. R., Nikonorov, A. V., Oseledets, I. V., Skidanov, R. V., & Butt, M. A. (2024). A perspective on the artificial intelligence's transformative role in advancing diffractive optics. *iscience*, 27(7).