

PARTICLE-HOLE DISPERSIVE OPTICAL MODEL: PAST AND FUTURE

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Particle-Hole Dispersive Optical Model (PHDOM) has been originally proposed [1] and then implemented to describing main properties of various isoscalar and isovector giant resonances (GRs) in medium-heavy closed-shell nuclei (see, e.g., Ref. [2] and references therein). Main properties include the energy-averaged strength distribution, transition density, and probabilities of direct one-nucleon decay. In fact, PHDOM is an extension of standard and non-standard continuum-RPA versions to taking into account (phenomenologically and in average over the energy) the spreading effect. For this reason, PHDOM might be related to semi-microscopic models.

In this review talk, a description of the model, its ingredients, and recent results [2, 3] are planned to be briefly presented. Extension of PHDOM to taking into account nucleon pairing in open-shell spherical nuclei, and consideration, within the model, of tensor correlations in GR formation (the first attempt has been undertaken in Ref. [4]) will be discussed.

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3. Bondarenko V.I., Urin M.H., <https://arxiv.org/abs/2201.02965>.
4. Bondarenko V.I., Urin M.H., Yad. Fiz. **85**, 187 (2022).