Contribution ID: **246**   Type: **Semi-plenary talk (30 min + 5 min questions)**

PARTICLE-HOLE DISPERSIVE OPTICAL MODEL: PAST AND FUTURE

Thursday, 14 July 2022 10:30 (30 minutes)

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.

1. Urin M.H., Phys. At. Nucl. 74, 1180 (2011).; Phys. Rev. C 87, 044330 (2013).

2. Gorelik M.L., Shlomo S., Tulupov B.A., and Urin M.H., Phys. Rev. C 103, 034302 (2021); https://arxiv.org/abs/2201.04202.

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).

The speaker is a student or young scientist

No

Section

1. Nuclear structure: theory and experiment

Primary author: Prof. URIN, Michael (National Research Nuclear University "MEPhI")

Presenter: Prof. URIN, Michael (National Research Nuclear University "MEPhI")

Session Classification: Plenary session