

STATEMENT

in a competition for the academic position of "Associate Professor" in the professional field 4.1 Physical sciences, Electrical, magnetic and optical properties of condensed matter", announced in SG, **PD-38-578 /09.12.2021** for the needs of Faculty of Physics at Sofia university, with an only candidate: **Neno Todorov, Ph.D., Head assistant**, Faculty of Physics at SU

Member of the scientific jury: **Evgenia Valcheva, DSc, PhD, Professor**

I. General description of the submitted materials

1. Candidate data

The documents submitted to the competition by the candidate Dr. Neno Todorov fully comply with the requirements of the Law on the Protection of Scientific and Technological Information and Practice and the Regulations on the Conditions and Procedures for Acquiring Scientific Degrees and Holding Academic Positions at Sofia University "St. Kliment Ohridski "(PURPNSZADSU) and the Additional Requirements of the Federal Law. The full list of scientific works of Ch. Assistant Professor Dr. Neno Todorov includes a total of 24 publications. Of these, the candidate has submitted a list of 18 titles for participation in the competition, incl. 12 publications in foreign scientific journals with impact factor, 3 in refereed publications from scientific forums with impact rank (SJR), 3 publications with methodological focus in non-refereed and non-indexed publications. Also presented are 4 official notes and certificates from the employer, 7 certificates certifying participation as head of the national physics team at international Olympiads and 13 orders from the Ministry of Education and Science to participate in a national commission for organizing and conducting national physics Olympiads and competitions, supporting the candidate's achievements. Evidence of participation in two international research projects and one post-doc specialization is presented.

2. Candidate details

Dr. Todorov has a Master's degree in Engineering Physics, majoring in Microelectronics and Information Technology from the Faculty of Physics at Sofia University since 2010. He continued his education as a PhD student under double scientific supervision at the Faculty of Physics at Sofia University "St. Kliment Ohridski" and the Institute of Materials Jean Rouxet, France, and in 2019 defended his dissertation for the degree of ONS Doctor in Physics (Electrical, Magnetic and Optical Properties of Condensed Matter). Since 2008 he has been working at the Faculty of Physics at Sofia University as a physicist, assistant and chief assistant since 2015 at the Department of Condensed Matter Physics (now Condensed Matter Physics and Microelectronics). In 2019, he received a six-month specialization as a postdoctoral fellow at the Free University of Berlin.

3. General characteristics of the scientific works and achievements of the candidate

The scientific activity of the candidate corresponds to the scientific orientation of the competition. From the presented in tabular form summarized data on various criteria according to the requirements for holding the academic position "Associate Professor" set in the Law on the Development of Academic Staff in RB (ZRASRB), PPZRASRB and regulations of the Faculty of Physics and Sofia University "St. Kliment Ohridski " it can be seen that the following criteria are met:

1. indicator A - dissertation for scientific degree "doctor" (50 points); 2. indicator B2 - 4 publications with indices Q1 (total of 100 points for required 100 points); 3. indicator D - 14 articles, 9 with Q1, 3 with Q2 and 2 with Q4 (total 219 points with required 220 points); 4. indicator D - 261 citations (522 points for required 50 points); 5. group of indicators E - a total of 170 points (from participation in national research projects 90 points and from international projects 80 points).

Dr. Todorov presented data on the criteria of the increased requirements of the Federal Law, which further proves: the number of publications in groups of indicators B and D with a significant contribution of the candidate - 5; golden publication - 6, cited more than 20 times; participation in a conference with a report or poster - 6; study employment for the last five years - 2046 hours; supervisor of 2 diploma theses; Hirsch's index of citations of publications is $h = 7$.

The presented report for fulfillment of the minimum requirements is according to Web of Science / Scopus. The presented data fully meet the minimum national requirements (under Art. 2b, para. 2 and 3 of ZRASRB) and respectively the additional requirements of Sofia University "St. Kliment Ohridski" for holding the academic position of "Associate Professor" in the scientific field and professional direction of the competition. I can reasonably conclude that the scientific papers submitted by the candidate do not repeat those of previous procedures for acquiring a scientific title and academic position. He demonstrates extremely active work in research projects, national and international.

4. Characteristics and evaluation of the teaching activity of the candidate

The teaching activity of the candidate is extremely extensive. It includes lectures, seminars, practical exercises in a number of disciplines. He is the supervisor of two diploma theses with methodological orientation. Due to the wide range of subjects taught by the candidate, he has taught students from several different specialties of the Faculty of Physics. Therefore, I can confidently accept that Dr. Todorov is a well-established lecturer with sufficient experience to hold the academic position of "Associate Professor". In addition, I would like to draw attention to the candidate's active work in promoting physics and working with students to attract future physics students. In this regard, Neno Todorov has been extremely active for many years as a member of the National Commission for the Physics Olympiad and the autumn and spring physics competitions and as head of the national team for the International and European Philology Olympiads. -зика. He is the author of assignments for national competitions and the Physics Olympiad (a total of six experimental and over 25 theoretical assignments).

5. Content analysis of the scientific and scientific-applied achievements of the candidate contained in the materials for participation in the competition

The scientific activity of the candidate fully corresponds to the topic of the competition "Electrical, magnetic and optical properties of condensed matter". The main area of research is Raman spectroscopy of materials (mainly oxides in the form of powders, thin layers or single crystals). Different approaches have been applied, such as measurements under different conditions (polarization spectra, resonance phenomena depending on the wavelength of the laser used, depending on the physical properties of the material). Calculations of the lattice dynamics were performed to determine the symmetry and the origin of the observed lines in the

Raman spectra, especially in cases when there is insufficient or insufficient data in the literature on the studied materials. The main contribution of the candidate in the publications is the measurement and analysis of Raman spectra. The obtained scientific results and contributions are mainly in the field of condensed matter physics and in particular relate to the characterization of new materials. The contributing nature is expressed in the enrichment of existing knowledge and obtaining new results for the studied materials. Dr. Todorov is the first author in a significant number of publications, it is correctly stated in which he has a leading role in research, original and scientifically significant results have been obtained. The publications (21 of them) are in editions with impact или factor or impact - rank, as 16 fall into quartiles Q1 or Q2. Six of the articles have been published in the authoritative publication Physical Review B. The candidate's works have received high marks and recognition and are highly cited. The total number of independent citations of the 18 participating articles is 181 with a total impact - factor of 37 and h - index 4.

6. Critical remarks and recommendations

I have no critical remarks about the candidate and the materials presented by him.

7. Personal impressions of the candidate

My personal impressions of Dr. Neno Todorov are still as a student and doctoral student, as well as in the following years as a colleague and lecturer at the Faculty of Physics. I can say that he is a motivated and profound scientist and dedicated teacher.

8. Conclusion on the application

After getting acquainted with the materials and scientific papers presented in the competition and based on the analysis of their importance and the scientific and scientific-applied contributions contained in them, I confirm that the scientific achievements meet the requirements of ZRASRB, Regulations for its application and relevant Regulations of Sofia University "St. Kliment Ohridski "for holding the candidate for the academic position“ do-cent ”in the scientific field and professional direction of the competition. In particular, the candidate satisfies the minimum national requirements in the professional field and no plagiarism has been established in the scientific papers submitted at the competition. I give my **positive** assessment of the candidacy of Dr. Neno Todorov.

II. OVERALL CONCLUSION

Based on the above, **I recommend** the scientific jury to propose to the competent authority for the selection of the Faculty of Physics at Sofia University "St. Kliment Ohridski "to elect **Dr. Neno Todorov** to take the academic position of "Associate Professor" in the professional field **4.1. Physical sciences (Electrical, magnetic and optical properties of condensed matter).**

25.02. 2022

Prepared the opinion:

(Prof. Evgenia Valcheva)