

**OPINION**  
**in a competition for an academic position**  
**"Associate Professor"**  
**in professional field 4.1 physical sciences**  
**for the needs of Sofia University "St. Kliment Ohridski "(Sofia University),**  
**Faculty of Physics, announced in SG no. 63 of 30.07.2021**

This opinion was prepared by: Assoc. Prof. Dr. Veselin Georgiev Filev - Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, in his capacity as a member of the scientific jury of the competition according to Order № ПД-38-488/01.10.2021 of the Rector of Sofia University.

**Only one candidate** has submitted documents for participation in the announced competition :

Ch. Assistant Professor Dr. Tsvetan Ivanov Vetsov, Faculty of Physics, Sofia University "St. Kliment Ohridski "

## **I. General description of the submitted materials**

### **1. Candidate details**

The documents submitted by the competition by the candidate comply with the requirements of the Law on the Protection of Scientific and Technological Research, the [Rules of Procedure](#) and the [Regulations for the Acquisition of Scientific Degrees and Academic Positions at Sofia University "St. Kliment Ohridski "](#).

*For participation in the competition, the candidate Ch. Assistant Professor Tsvetan Ivanov Vetsov has submitted a list of a total of 18 titles, incl. 17 publications in Bulgarian and foreign scientific publications and scientific forums and one chapter of a book. There are also 17 other documents (in the form of official notes and certificates from the employer, project manager, funding organization or project assignor, references and feedback, awards and other relevant evidence) supporting the applicant's achievements.*

The documents are well prepared in accordance with the requirements for the competition.

### **2. Candidate details**

Ch. Assistant Professor Tsvetan Vetsov has obtained general bachelor's and master's degrees at the Faculty of Physics of Sofia University "St. Kliment Ohridski " respectively in 2009 and 2011. Subsequently, he entered as a full-time doctoral student in the Department of Theoretical

Physics of the Faculty of Physics and Mathematics, where in 2015 defended his doctoral dissertation on "String approach to calibration theories" with supervisor Prof. Radoslav Rashkov. Since 2015, Ch. Assistant Professor Tsvetan Vetsov works as a Chief Assistant Professor at the Department of Theoretical Physics of the Faculty of Physics, Sofia University "St. Kliment Ohridski".

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

To participate in the competition, the candidate has submitted 18 titles: 11 publications in international journals in the first quartile (Q1), one publication in the second quartile (Q2), one publication in the third quarter (Q3), one publication in the fourth quartile (Q4), three publications with SJR and one chapter of a book. The submitted scientific papers 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 field of the competition.

The candidate has clearly certified that the submitted scientific papers do not repeat those of previous procedures for acquiring a scientific title and academic position.

After a detailed acquaintance with the submitted scientific papers, it was established that there is no plagiarism proven in the statutory order in the scientific papers submitted at the competition.

### **4. Characteristics and evaluation of the candidate's teaching activity**

The candidate has excellent reviews from his teaching activity, my information is from colleagues of the candidate as well as from students he has taught. The candidate has taught a variety of courses ranging from general math courses to advanced courses such as quantum field theory and quantum field theory in curved space-time. In addition the candidate has supervised three bachelor students which is impressive for his academic age. My personal impressions of his seminars and the discussions that he has lead are also excellent. In my opinion, the educational and pedagogical activity of the candidate deserves a very high evaluation.

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

The candidate's research contributions include the following areas: String Theory, Classical and Gravity, and Modified Gravity, which is impressive. In essence, they not only enrich existing knowledge, but also refine existing technical methods. An important part of the candidate's scientific contributions is devoted to holographic applications of Fisher's information metrics, those methods were applied to a number of geometries, including pp-wave space-time background and geometries with non-relativistic Schrödinger symmetry. The candidate also has significant contributions to the study of the thermodynamics of black holes and the dynamics of string solutions. Last but not least, the candidate has contributed to the numerical modelling of thin accretion disks around dark compact objects.

The candidate has submitted the remarkable 11 articles from the first quartile on impact factor (Q1), as well as 6 more articles with SJR or impact factor. The candidate's work is cited in 83 publications referenced in the Web of Science and Scopus. The candidate has a web of science h-index of 5.

## **6. Critical remarks and recommendations**

No criticism.

## **7. Personal impressions of the candidate**

I have known the candidate since his time as a full-time doctoral student in the Department of Theoretical Physics and I have had the pleasure of working with him on a number of projects. Ch. Assistant Professor Tsvetan Vetsov is an extremely conscientious, hard-working and dedicated scientist, with impressive organization skills and self-discipline.

## **8. Conclusion on the application**

After getting acquainted with the materials and scientific works presented in the competition and based on the analysis of their significance and contained in them scientific and scientific-applied contributions, I **confirm** that the scientific achievements meet the requirements of ZRASRB, the Regulations for its application and the relevant Regulations. of Sofia University "St. Kliment Ohridski" for holding the candidate for the academic position "Associate Professor" in the scientific field and professional field 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.

## II. GENERAL 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 Ch. Assistant Professor Tsvetan Vetsov to take the academic position of "Associate Professor" in the professional field 4.1 Physical Sciences

November 22, 2021

opinion by:



Assoc. Prof. Dr. Veselin Filev