

O P I N I O N

of Assoc. Prof. Hristo Todorov Ibrishimov, PhD, Technical University of Gabrovo, regarding the materials submitted for participation in a competition for the academic position of "Associate Professor" in the Field of Higher Education - 5. Technical sciences, Professional Field - 5.2. Electrical Engineering, Electronics and Automation, scientific subject – “Electric Power Distribution and Electrical Equipment” (Electrical machines I)

In the competition for associate professor, announced in the Official Gazette, issue 55 from 27.06.2023 and on the website of the Technical University - Gabrovo for the needs of the Department “Electric Power Distribution and Electrical Equipment”, as the only candidate involved Chief Assistant Dimitrina Yordanova Koeva, PhD Eng.

1. Overview of the content and results in the presented works

The candidate submits 44 publications for participation in the competition, of which 11 are referenced in world-renowned databases, 33 publications in scientific publications, not referenced in world-renowned databases.

In indicator 1 - Group A: The candidate has presented a diploma for PhD "doctor" in Professional Field 5.2. and the author's abstract of a dissertation defended at the Engineering and Pedagogical Faculty of Sliven at the Technical University of Sofia.

For the minimum required 100 points under group B, Ch. Assistant D. Koeva, PhD Eng. presents 11 publications (B.4.1-B.4.11) 295 points.

According to the scientometric indicators in group G, the candidate declared 33 publications. The total sum of the points for indicators in group G is 301.73, and they are collected from the indicators, G7-40 points and G8-261.73 points.

According to indicator 12 - Group D: The candidate in the competition presented 15 citations meeting the requirements of this indicator (50 points are required), two of the presented citations are not referenced and indexed in world-famous databases with scientific information (10.1 and 11.1), the total number of points in group D is 135.

In terms of content, the scientific works of Ch. Assistant, D. Koeva, PhD Eng. can be conditionally referred to the following thematic scientific directions: electrical machines, electrical drives, quality of electrical energy, electrical distribution and electrical equipment, energy efficiency, etc.

2. General characteristics of the candidate's activity

2.1. Educational and pedagogical activity

The Candidate for the academic position of an associated professor, chief assist. PhD Dimitrina Koeva, was appointed as an assistant at the Faculty of Engineering and Pedagogy in Sliven from 1991 to 2015. In 2015, she was appointed as the Chief Assistant in the Department of "Electric Power Distribution and Electrical Equipment" at the Technical University - Gabrovo.

She has led lectures, laboratory and seminar exercises for full-time and part-time students in the following disciplines for the Bachelor's degree (Electrical Machines I, Energy Technologies and Ecology, Electrical Equipment, Electromechanical Devices, Electrical Equipment of Production Machines and Processes, Optimal Design of Electrical Machines from the bachelor's course) and disciplines from Master's degree (Electrical Equipment, Electrical Machines, Electrical Equipment of Production Machines and Processes, Technical Means of Energy Storage, Electromechanical Devices).

The candidate is also the author of the study programs of the following academic courses: Electrical Machines I and co-author of the study programs for Electromechanical Devices, Energy Technologies and Ecology, Electrical Equipment, Electrical Equipment for Production Machines and Processes, Optimal Design of Electrical Machines for Bachelor's degree) and the following academic courses from Master's degree: Energy-Saving Electric Drives, Transient Processes in Electrical Systems.

According to the attached list from Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D Eng., she is the co-author of 3 academic courses for students from the Bachelor's and Master's degree.

During his many years of teaching under his leadership, 70 graduates have successfully defended, he has been a reviewer of over 50 theses.

2.2. Scientific and scientific-applied activity

The scientific and scientifically applied activity of Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D. Eng can be systematized in the following thematic topics: Electrical Machines, Renewable Energy Sources, Energy Efficiency.

A document certifying the participation in 6 research university projects financed by the state budget was presented, he was the head of 1 of them.

A utility model patent for a "Galvanically Isolated Current Sensor" has been filed.

Certificates from scientific conferences for peer review of scientific papers are presented.

2.3. Implementation activities

Ch. Assistant Prof. Dimitrina Koeva presented official notes for participation in development activities on a project at "Dinamo Sliven AD" and participation as a consultant in the preparation of energy efficiency survey reports of industrial sites by "EnKoRa" EOOD.

The review of the materials submitted for participation in the competition gives me reason to claim that Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D Eng. has the necessary qualifications and good achievements in the field of the competition.

3. Contributions (scientific, scientific-applied, applied). Significance of contributions to science and practice

I accept a large part of the contributions, formulated by the author on the basis of the publications, for participation in the competition for "Associate Professor" - a total of 44 scientific articles and papers:

Scientific contributions:

1. The working and energy characteristics of electrical machines in order to analyze the change of their parameters on their working and energy characteristics are studied;
2. Methodologies, algorithms and mathematical models of the electromechanical system of drive motors with industrial application have been developed.

Scientific-applied contributions:

1. Comparative analysis of the qualities of different models for forecasting the consumption of energy generated and (or) consumed by energy objects;
2. Proposing an approach for distribution of combined non-linear loads in view of the energy efficient and reliable operation of the power transformer;
3. It is built a mathematical model, represented by a system of differential equations, for specific electric drives with specific parameters. The goal is to seek a minimum of losses;
4. Results are obtained for the change of variables describing in detail the dynamic behavior of the electric drive.

Applied contributions:

1. An analysis of the specific technical characteristics of the operation of several asynchronous motors was carried out;
2. Analyzing existing methods for monitoring and diagnostics of wind turbines;

3. Measurements were carried out and load schedules were taken of various types of non-linear loads in industry and the public sector.

4. Evaluation of the personal contribution of the Candidate

I consider that the contributions are the personal work of the candidate. Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D Eng., is a long-term researcher and lecturer with over 30 years of experience in research related to the topic of the competition. After acquaintance and analysis with his developments and achievements of the presented materials for participation in the competition, namely: 44 publications in journals and scientific conferences, 6 of which are independent and 13 publications in which the candidate is in the first place, I think that the candidate has a serious personal contribution and leading participation in them.

5. Critical comments and recommendations

I don't have critical remarks and recommendations to the presented materials. I would like to recommend to the candidate to expand the scope of his participation in other scientific conferences and journals with impact factor (IF).

6. Personal impression

I know Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D Eng., as a colleague with whom we have been working in the Department of "Electric Power Distribution and Electrical Equipment" of TU Gabrovo since 2015. She is distinguished by her independence, diligence and initiative.

I have no joint publications with her. I am not a person related to it in the sense of paragraph 1, item 5 of the Additional provisions of the Law on the development of the academic staff in the Republic of Bulgaria

7. Conclusion

Taking into account the above mentioned, I propose Ch. Assistant Prof. Dimitrina Yordanova Koeva, Ph.D Eng., to be awarded the academic position of Associate Professor in the field of higher education – 5. Technical sciences, Professional field - 5.2. Electrical Engineering, Electronics and Automation, scientific subject – scientific subject – “Electric Power Distribution and Electrical Equipment” (Electrical machines I).

10.11.2023

Member of the jury: /signature/

/Assoc. Prof. Hristo Todorov Ibrishimov/