POSITION

in relation to awarding the academic rank of Associate Professor
professional field 5.2. Electrical engineering, electronics and automatics,
Scientific speciality Conversion technique,
promulgated in State Gazette, issue 93/26.11.2019
Candidate: Angel Stanimirov Marinov, PhD,

Member of Scientific Jury: Assoc. Prof, PhD, Eng. Dimitar Arnaudov,
TU-Sofia, Department of Power electronics

1. Overall characterization of the pure scientific research and applied scientific research of the candidate.

The research and scientific applied activity of PhD eng. Angel Marinov is in the field of electronic converters of electrical energy. It is related to the modelling of electronic converters for electrotechnology and methods to reduce losses in power devices. The topics are relevant in the field of systems for energy harvesting, control systems for electronic converters, sensors for measuring in power electronic converters, etc.

In the competition for Associate Professor participates with publications equivalent to monographic work. The performance of the indicators by groups according to the national minimum requirements of the LDASRB is as follows:

Group А – Indicator 1: The candidate has submitted a PhD diploma in the professional field 5.2. Electrical engineering, electronics and automatics, scientific speciality “Electronics”.

Group В – Indicator 4: There are 13 publications, equivalent to monographic work, on the topic “Industrial electronics" with a total of 227 points (minimum 100 points are required). The publications are in the Scopus and WoS world databases, five of them are in journal with SJR.

Group Г – Indicator 7: There are 11 publications with a total of 184 points. ***Indicator 8:*** 25 publications with a total of 224 points (total for group Г - 408 points (minimum of 200 points required).) Four of the publications are stand-alone.

Group Д – Indicator 12: The contestant has submitted 80 points on this indikator (50 points are required), but when referring to the Scopus and WoS databases, the number of citations is significantly higher.

Group Ж – Indicator 30: - lectures on the last three years – PhD eng. Angel Marinov has held lectures on various disciplines in the field of electronic converters, has submitted 91 points on this indicator (30 points are required).

2. Evaluation of the pedagogical preparation and activities of the candidate.

The teaching activity of Dr. Eng. Angel Marinov starts as an assistant in 2009. in the Department of Electronic Engineering and Microelectronics, and currently holds the position of Head of Scientific Section. The documents presented show that from 2016 he was appointed to the Assistant professor in the College of TU-Varna. Six study programs co-authored are also presented. The programs include topics in the field of conversion technology. The first is from 2010 and the last from 2016. He has been the head of numerous graduates. He has also participated in the preparation of students for student scientific sessions at TU-Varna. He also spent 91 hours. lectures. All this gives me reason to believe that he has the necessary pedagogical skills.

3. Basic scientific and applied contribution

Scientific contributions - These contributions are related to the new facts about the advantages of various advanced materials and structures for the realization of magnetic components in the implementation of power electronic converters. Another scientific contribution is the proposed circuit of passive elements for power electronic converters for wind turbines.

Scientifically applied contributions - These contributions are in the field of improved electronic converter circuits. Such schemes are intended to charge rechargeable batteries for electric vehicles. Another contribution is the improved algorithms for measuring parameters in power electronic converters.

Another group is *applied* contributions. They are related to encoding and decoding information from sensors for the rotor position of an electric machine. Also a contributing contribution is the proposed radiator design for the heat-transfer of power switches.

Methodological contributions - These contributions relate to e-learning in the field of power converters engineering and biomedical engineering.

4. Significance of the contribution for science and practice.

The above-mentioned contributions on topical issues such as renewable energy sources, high-efficiency power electronic converters, electromobility, and the recognition of the candidate in scientific environments are also visible from the publications quoted by a number of foreign authors. At least five of the publications are in the journal with SJR. The quantitative indicators for occupying the academic position have been fulfilled.

5. Comments and recomendations

I have no significant comments on the materials presented, I recommend that the results of the author's research be presented in an appropriate way in methodological learning literature (manuals, textbooks) for students and specialists in the field of electronic converters.

CONCLUSION

The materials submitted fulfill the requirements of LDASRB, of the Statute for its application and internal Statute of the requirements and the procedure for attaining academic rank at the Technical University – Varna. On the basis of the submitted scientific works, their significance and their contribution I find it reasonable to propose that PhD eng. Angel Marinov shoud be awarded the academic rank of “Associate Professor” in professional field 5.2. Electrical engineering, electronics and automatics, scientific speciality “**Conversion technique**”.

Date: 04.03.2020 **Scientific Jury member:**

(Assoc. prof PhD Dimitar Arnaudov)