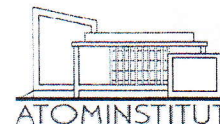




TECHNISCHE
UNIVERSITÄT
WIEN
Vienna University of Technology



Ao. Univ. Prof. i.R. DI Dr. Helmuth BÖCK
Strahlenphysik
Radiation Physics

Technical University Praha
CVUT
FJFI
Science and research Dept.
Brehova 7
115 19 PRAHA 1
CZECH REPUBLIC

T: 0043-1-588 01-141368
Vermittlung/Board: 0043-1-588 01-14111
F: 0043-1-588 01-14199
E-mail: boeck@ati.ac.at
Internet: www.ati.ac.at

Ref. Expert Evaluation for Habilitation of Ing. Lubomir Sklenka

Summary of the Habilitation:

The first part habilitation thesis is focused on research reactor technology with a special emphasis on low power research reactors. It concentrates on reactor physics experiments and experimental procedures. The thesis analyses the role of research reactors in society, provides a short description of the most common low power research reactors and it's utilization in education and training, which are their most common applications. A recent trend, which emerged a few years ago, is the development of regional research reactor coalitions and networks. This trend is also described in the thesis because coalitions and networks create a new potential in the optimal use of research reactors.

The second part of the thesis is focused on various common reactor physics experiments, such as

- critical experiments
- reactor kinetics experiments
- reactor feedback
- reactivity coefficients
- reactivity measurement
- control rod experiments
- neutron flux distribution measurement

as well as new developed experiments especially adapted by the author for the experimental potentials of the low power research reactor VR-1.

The author was further strongly involved - either as device development leader, principal investigator of the project or as supervisor of the students' theses – in the development of the following new experiments at the VR-1 reactor:

- delayed neutrons
- void coefficients
- fast reactivity changes
- temperature coefficients

The purpose of the thesis is to present in condensed form the author's involvement and contribution to the development of reactor physics experiments which he established during two and half decades of work at the Training Reactor VR-1 in Prague. During his academic career at the VR-1 since 1988 he gained a deep knowledge of the reactor facility, of the reactor capabilities and of the academic needs of students in nuclear education.

Major Achievements:

As shown in the references many publication exist on the application of research reactors in many different areas. These publications usually cover always a large area of application from education to material testing and isotope production.

In the present submitted habilitation thesis particular emphasis is concentrated on the application of low power research reactors for students education. The thesis discussed in detail such experiments including the theory behind, the practical performance and the expected results. The way it is presented show that the candidate has a deep knowledge and long term experience in interaction with students and how to transfer the knowledge to students within the academic educational program in a new and understandable way.

The candidate during last 5 years has published 4 articles in reviewed journals and contributed to 29 international conferences and he has been co-author of one chapter in 1 intentional monography (IAEA TecDoc). In addition he carried out 12 IAEA expert missions devoted to the safety and utilization of low power research reactors which supports his reputation as highly qualified international nuclear expert.

Overall Evaluation of the Habilitation:

The candidate shows a very high academic qualification in nuclear education and teaching including the transfer of knowledge to the students. The developed exercises are optimally tailored for this task. This capability also includes his ability to coordinate and supervise students in their academic BS, MS and PhD program. In addition the above mentioned qualification is also supported by the numerous IAEA expert missions which again cover academic nuclear education and optimal utilization of low power research reactors.

In summary the submitted thesis represents a highly valuable work for every academic staff involved in students' education in the area of reactor physics, reactor kinetics and reactor dynamics but also in instrumentation and control. I therefore validate this thesis as a positive contribution and recommend accepting the candidate for habilitation.

Prof.DI.Dr.Helmuth Böck

Vienna 4.10.2013

TU WIEN
Atominstitut
Stadionallee 2
1020 Wien, Austria
Tel. (+43-1) 58801-14111, Fax -14109
www.ati.ac.at, office@ati.ac.at