

Bibliometric Data on the Scientific Work of Paraskeva Simova



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Introduction

In this article one of the three directions of bibliometric analysis is in the focus, namely analysis of data by sources (number of publications, number of authors, and time of issue) [1].

The article is developed as a bibliometric analysis via which a research is made of the data base and certain quantitative characteristics are reached. Bibliographic records of the publications “by” and “about” Paraskeva Simova are explored by bibliographic ways and are copied by: the catalogues of largest scientific library St. St. Cyrille and Methodius National Library of Republic of Bulgaria; serial issues of Bulgarian national bibliography – Bulgarian bibliography, chronicles of articles of Bulgarian journals and proceedings; Electronic catalogue of books issued in Bulgaria in the period 1978 – 2008; the electronic data base of publications in journals in the period 1992 – 2008; the special and general bibliographic indexes; Science direct, Scopus, ISI Web of knowledge. All found bibliographic records are in Bulgarian, English, German and Russian language. They are issued in the period 1949 – 2010.

It is possible some insignificant omissions to be found in the article regarding its completeness. If so, they would be due to the only fact that in the first years after the democratic political changes in Bulgaria in the running national bibliography are registered some incompleteness. It was so because the law for obligatory copy of all books and articles issued was not so strictly observed by some private publishers. However, these lacks do not undermine the deed of both scientific and research work of Paraskeva Simova who has been actively working over 40 years and these gaps would refer only the literature about her.

Biography

Paraskeva Dimitrova Simova was born on the 6 of January 1920 in Kardzhali, Bulgaria. In 1939, she graduated from the Secondary girl school in Stara Zagora and from St. Kliment Ohridski Sofia University with excellent academic results on physics in 1945 [2].

She successfully defends dissertation thesis in the University of Leningrad in 1950. The thesis was on the topic of studying intermolecular hydrogen connection in carboxylic acids. Paraskeva Simova was a scientific fellow in the Faculty of Physics of the Bulgarian Academy of Sciences from 1951 where she started the organization of the Laboratory of spectroscopy. Together with her collaborators Simova continued and deepened her researches on the intra molecular and intermolecular hydrogen connections and intermolecular interactions in condensed environments – a scientific field quite modern in those times. A number of methods for emission spectrum analysis of metals and ores are developed in that laboratory. One successful and main work of the laboratory is supporting

the industrial spectrum laboratories throughout the country with consultations, training of specialists and development of spectrum methods for them [3].



Paraskeva Simova has achieved significant scientific results in different areas of spectroscopy and optics with great fundamental and applied meaning. Some of them are vibrational and Raman spectroscopy of hydrogen connections in the molecules, non-linear optic phenomena in liquids, development of new methods for measurement of infra-red and rotation spectrums of wide class liquid-crystal compounds, electro optical memory and phasic transitions in smectic C and nematic liquid crystals, fundamental researches and observations on the integral-optical and fibrous waveguides. A great deal of all contributions mentioned above is of pioneer importance acknowledged and highly appreciated by the scientific community [4].

Paraskeva Simova is an author and co-author of more than 107 scientific articles, more than 50 reports held during conferences. She is a co-author of university students book “*Molecular spectrum analysis*” (Sofia, 1973), a monography in English language “*Vibration spectroscopy of liquid crystals*” (Bulgarian Academy of Science Publishing house, Sofia, 1984), “*Atlas of vibrational spectra of liquid crystals*”, (WSPC, New York, 1988). She has published 12 science-education articles, and she is a compiler of the book “*Eminent Bulgarian Physicists*” issued in 1981. She is a long-time lecturer in Molecular spectroscopy in the Faculty of Physics of Sofia University. She is an active participant and main organizer of great number scientific conferences in spectroscopy with many international participants.

Paraskeva Simova served as a vice-director on the scientific matters of United Centre of Physics. Many years she was a chairperson of the national spectroscopy commission. She also was a vice-president of the Union of the scientific workers in Bulgaria as well as an active member (now honorary member) of the Union of the physicists. She received many state awards, orders, medals and other distinctions [5].

With her activities – research, teaching and manager – Paraskeva Simova is the establisher and organizer of almost all directions of spectroscopy and physical optics in Bulgaria – a field where Bulgarian science put Bulgaria on the map with significant achievements [6].

Description of the Method

The bibliometric indexes are of great importance in the process of planning the teaching process and forming scientific plans and tasks. They reflect the level of activity and productivity of the fundamental and applied researches in a certain country, their contribution to the development of the scientific knowledge [7]. Thus, one of the approaches for research in science can be the bibliometric approach. In the last years (from the early 1990^s), bibliometric analysis is widely used for revealing the countries’ contribution for science development. As a rule, such researches have ordered governmentally. They are a fundamental base for scientific politics establishment.

Some of the advantages of bibliometric analysis – compared to other methods applied during research procedures – are [7]:

1. The bibliometric approach includes all documental flow and all of its components. Thus, it ensures an entire, not fragmental, analysis.
2. The bibliometric analysis conveys the research on a wide base. All world databases put into operation allow different methods for analysis and different quantitative options to be in use. The quantitative widening of the information base leads to new qualitative results.
3. Bibliometric analysis unlike the direct methods for analysis (questionnaires and interviews) deals with the objective character of the material.

Reviewed Sources:

- Catalogues and card-indexes of St. St. Cyril and Methodius National Library of Republic of Bulgaria;
- Chronicles of the periodical press. 1952-1970;
- Chronicles of the articles of Bulgarian journals and proceedings. Series 5. 1971-1991;
- Chronicles of the articles of Bulgarian newspapers. Series 6, 1972-1991;
- Science direct, Scopus, ISI Web of knowledge;
- Optics and Spectroscopy of Thermotropic Liquid Crystals – Publications - <http://www.issp.bas.bg/lab/os/lq/pub.htm>;
- List of Minko Parvanov Petrov’s publications - <http://mail.issp.bas.bg/~mpetrov>;
- List of Yordan Georgiev Marinov’s publications - http://fb.issp.bas.bg/~mitov/YMarinov/Publikacii_Marinov.pdf;
- Personal archives;
- WILEY Online library;
- Scientific Common

Explanations

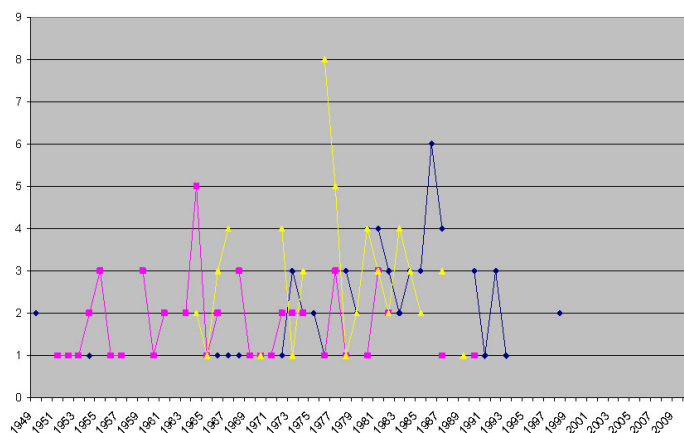


Fig. 1 Comparison of the publications by their type (articles in Bulgarian and foreign journals; reports from Bulgarian and foreign symposia)

The quantitative results obtained by the bibliometric analysis of Prof. Paraskeva Simova need interpretation by specialists not only in her field of work but also by experts and scientists from other areas. When discussing the results: the direction of Prof. Simova’s publications by rubrics shows increasing in certain topics. This can be possibly because the certain area was popular or it has social or governmental order (Fig. 1). There are directions

and elaborations that have barely presented in qualitative point of view. New direction emerges usually. It is so-called zone of distraction.

The small number of publications may reflect the dying away (developed) scientific direction. Thus, results analysis received with the help of the methods of bibliographic diagnostics have to be analyzed from many aspects including number of quotations (Fig. 2).

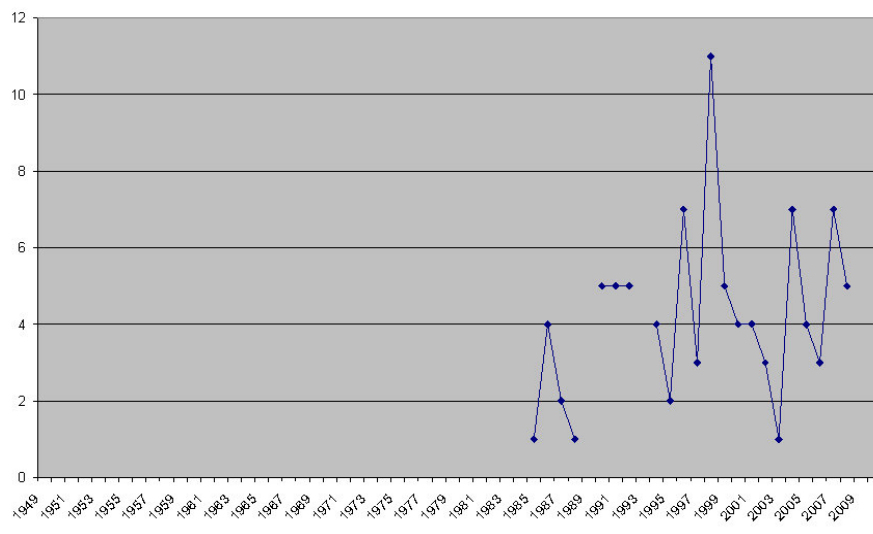


Fig. 2 Noticed quotes of Prof. Simova's publications.

This is especially in force for interdisciplinary researches because modern science is characterized with fast growth of some directions, which meaning is not always or necessarily clear even to the experts.

Conclusion

The facts registered in the bibliometric objects bring to the next generations not only direct information about the state of objects but also indirect information – there are the stamps of time when all sides of life (science, culture, economy, etc.) can be measured and tracked by them. This is especially true as it comes to Prof. Paraskeva Simova's scientific and creative work. Her activity gives one book for university students, 2 monographies, 57 scientific reports, 67 articles in foreign journals, 51 articles in Bulgarian journals as well as many publications in the periodic press.

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