PRESENTATION OF THE MONOGRAPHS OF THE S. P. TIMOSHENKO INSTITUTE OF MECHANICS TO THE SCIENTIFIC COMMUNITY

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This paper presents information on 220 monographs published by scientists of the S. P. Timoshenko Institute of Mechanics (National Academy of Sciences of Ukraine) and available in the Library of Congress (USA), and on ways (reading rooms and catalog numbers) of familiarizing oneself with them. The Library of Congress Online Catalog makes it possible to obtain information on these monographs via the Internet at any center of science in any country. This allows the scientific community to access the results presented in these monographs and resolves the problem of presenting them to the world’s scientific community.

Keywords: presentation, monograph, accessibility, S. P. Timoshenko Institute of Mechanics

Introduction. Large-scale fundamental and applied research studies conducted at various centers of science throughout the world might appear to be one of the characteristic features of the now-departed 20th century. The results of these studies were published in numerous scientific and technical periodicals and monographs. Of special interest are monographs written after analysis, understanding, and generalization of scientific results originally published as papers and reports. Such monographs have been issued in various languages, mostly in English, and collected at a number of the world’s major libraries.

However, science generally, and mechanics specifically, is international by its very nature. After publication, any new scientific result is not only a property of its authors, but also is naturally the subject of a specific research area—it becomes a fragment of this subject in its development. Therefore, scientific activity was always organized so as to make new results available to all of the scientific community. In so doing, many objectives were pursued, of which three are noteworthy:

(i) detailed presentation of new results in view of their possible influence on the further development of science,
(ii) validation of new results, and
(iii) prevention of duplicate research.

Monographic issues may be thought of as adequately presented to the world’s scientific community and as readily available if scientists in any country can obtain information on these monographs and familiarize themselves with their content with the help of modern information systems. Only when monographs are accessible in this sense, we may say that the findings presented therein are the province of the world’s science. In this situation, in particular, submissions of or no references to scientific results that have already been published can no longer be justified by the so-called “inaccessibility” of source materials and can only be considered unethical behavior by representatives of the scientific community.

Considering this situation, we have to recognize that presenting main monographs to the scientific community is an urgent task not only for relatively new centers of science, which strive to popularize their findings, but also for the oldest centers of science, which have issued a great many monographs over all the years of their existence.

Thus, the said task is also urgent for the S. P. Timoshenko Institute of Mechanics, the oldest institute of the National Academy of Sciences of Ukraine.
Historical Note. The S. P. Timoshenko Institute of Mechanics was established on November 30, 1918. Originally, it was the Institute of Engineering Mechanics of the Ukrainian Academy of Sciences. The founder and first director of the institute was Prof. Stephan Prokofyevich Timoshenko, well known to all of the world community of mechanicians and engineers. On June 9, 1993, the institute was named in his honor, by a decision of the Presidium of the National Academy of Sciences of Ukraine.

Over the years of its existence, scientists of the institute have written about 400 monographs, handbooks, textbooks, and manuals. These books were published in Ukrainian, German, French, English, and mostly in Russian.

The books are held in a number of libraries of some countries and, naturally, cannot be considered readily available to scientists and experts in any country.

For the Institute of Mechanics this situation is dramatized by the fact that just a few of its monographs were published in English. This is what makes it somewhat difficult for English-speaking researchers to familiarize themselves with the achievements of the institute.

Note. At present, different books may be called scientific monographs (from the Greek words μονός meaning “one” or “single” and γράφο meaning “write”). Let us examine the question of what books may be regarded, in the authors’ opinion, as scientific monographs, considering the essential condition γράφο (write) that the authors write the book and assigning the condition μονός (one, single) either to the author or to the problem addressed in the book.

A monograph of the first type is a book written by one author and devoted to a separate scientific problem. The level of generality of the problem may be different.

A monograph of the second type is a book written by one author and devoted to a number of related problems. A typical example of such a monograph is selected works of noted scientists.

A monograph of the third type is a book written by several authors and devoted to a major scientific problem.

A monograph of the fourth type is a review book written as a monograph of the first, second, or third type and intended to summarize advances made in a major research area and to analyze the associated scientific results. Such monographs are fairly popular nowadays and often appear in multivolume issues.

Thus, according to the above classification, the following cannot be classed as scientific monographs:
(i) books written by several authors and devoted to a number of problems;
(ii) collections and transactions of institutes and universities;
(iii) proceedings of different scientific and research-and-technology conferences, etc.

The paper [4] published in Applied Mechanics Reviews in 1998 was the first to attempt to familiarize English-speaking researchers with mechanics-related books written by scientists of the S. P. Timoshenko Institute of Mechanics over the period from 1918 to 1998. This paper, however, just gives information on monographic and other issues of the institute and does not resolve the problem of their accessibility to the scientific community.

Today, the world’s major libraries are equipped with information systems that allow scientists all over the world to obtain, via the Internet, information on monographs held in these libraries. Apart from general information on the book of interest (authors, title, etc.), one may, with proper effort, get a copy of the book. One of the largest libraries is the Library of Congress in the USA. The Library of Congress Online Catalog accessible at http://catalog.loc.gov/ provides information on publications available in the library.

It should be noted that now relatively many monographs published by the S. P. Timoshenko Institute of Mechanics in English, German, French, Russian, and Ukrainian are already available from the Library of Congress.

Also, the library has all issues of the international scientific journal Prikladnaya Mekhanika (in Russian), beginning with No. 1, 2000. Note that since 2000 the journal has been featuring review papers devoted to the beginning of the Third Millennium, which were written by mechanicians from more than 20 countries.

In view of the aforesaid, we will present below information on the monographs issued by the S. P. Timoshenko Institute of Mechanics and available in the Library of Congress and on the ways (reading rooms, catalogue number, including Library of Congress Online Catalog) of familiarizing oneself with them.

Thus, the information on the issues to be mentioned below may be thought of as readily available to scientists all over the world.

It should be noted that the majority of the institute’s monographs is in Russian. However, this should not be a serious obstacle for non-Russian-speaking scientists to familiarize themselves with the results contained therein. The point is that the