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SERBIAN ASTRONOMERS IN SCIENCE CITATION INDEX IN 1961 – 1995 PERIOD

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Abstract. The presence of Serbian astronomers in Science Citation Index within 1961-1995 period has been analyzed. The most cited astronomers and articles have been identified. The impact factor of Bulletine Astronomique de Belgrade has been determined and discussed as well.

1. INTRODUCTION

Scientometric methods are the publication counting method, the science citation index (SCI) method, the content analysis method, the thesaurus code method and the sleng method. It has been shown (see Hajtun, 1983 and references therein), that the citation number is an indicator of the *quality* of scientific work, its *value*, *significance, utility* and *importance*. It is as well an indicator of the *individual contribution to the science* of a scientist and of his *prestige*. The aim of this contribution is to analyse the presence of Serbian astronomers in Science Citation Index within 1961-1995 period, and to identify the most cited astronomers and articles within the considered period.

2. RESULTS AND DISCUSSION

In order to identify the presence of Serbian astronomers in the Science Citation Index (SCI), a list of all astronomers working on the project "Physics and Dynamics of Celestial Bodies" has been taken as well as the bibliography of the project. Moreover, all of those working or had worked as astronomers and have at least one reference in Serbian scientific astronomical publications, as well as all professors of the Department of Astronomy of the Belgrade University and Directors of Belgrade Astronomical Observatory, have been added to the list.

In Table 1, illustrating the growth of our astronomy and of the presence of our results in the international scientific literatue, the number of Serbian astronomers present in SCI for a particular year within the 1961-1995 period is given. One can compare the period of 1961-1965, when only M. Milanković and V. Oskanjan (in 1964) were present and the 1991-1995 period, when 20 - 26 astronomers are present every year.

Table 1. Number of Serbian astronomers present in SCI for a particular year within the 1961-1995 period.

year	No.	year	No.	year	No.	year	No.
1961	1	1971	4	1981	10	1991	26
1962	1	1972	4	1982	9	1992	23
1963	1	1973	6	1983	11	1993	25
1964	1	1974	4	1984	9	1994	24
1965	1	1975	4	1985	15	1995	20
1966	2	1976	10	1986	17		
1967	1	1977	5	1987	22		
1968	2	1978	9	1988	19		
1969	2	1979	7	1989	25		
1970	4	1980	8	1990	14		

Table 2. Serbian astronomers with at least ten citations registered in the Science Citation Index, within the period 1961-1995.

No.	Name	Year of the first cit.	No. cit.	No cit. as the first author	No. cit 1991-1995
1.	Milan Dimitrijević	1976	851	589	439
2.	Milutin Milanković	1961	449	449	115
3.	Zoran Knežević	1982	254	95	198
4.	Dragutin Djurović	1973	113	111	36
5.	Vasilije Oskanjan	1964	76	76	4
6.	Slobodan Ninković	1983	74	35	45
7.	Aleksandar Kubičela	1970	43	29	5
8.	Gojko Djurašević	1984	41	24	31
9.	Ištvan Vince	1977	38	10	19
10.	Jelisaveta Arsenijević	1981	32	22	11
11.	Slobodan Jankov	1986	32	7	29
12.	Sofija Sadžakov	1987	31	27	22
13.	Djordje Teleki	1972	29	28	4
14.	Jelena Milogradov-Turin	1971	27	27	4
15.	Vladimir Kršljanin	1986	25	4	9
16.	Mirjana Vukićević-Karabin	1978	25	3	4
17.	Georgije Popović	1973	19	19	6
18.	Miodrag Dačić	1988	19	0	15
19.	Jovan Lazović	1986	16	16	9
20.	Danilo Zulević	1973	15	15	10
21.	Luka Popović	1991	13	3	13
22.	Milorad Protić	1970	11	11	4
23.	Nada Pejović	1985	11	11	2
24.	Ilija Lukačević	1971	10	10	2

Table 3. Articles of Serbian astronomers with more than 25 citations registered in the Science Citation Index, within the period 1961-1995.

1. Milanković, M.: 1941, Kanon der Erdbestrahlung und seine Anwendung auf das Eiszeitenproblem, *Königlisch Serbische Akademie, Editions Speciales, Sciences mathématiques et naturelles*, Belgrade, **CXXXIII**, 33. [223 citations].
2. Milanković, M.: 1930, Mathematische Klimalehre und Astronomische Theorie der Klimaschwankungen, *Handbuch der Klimatologie*, Bd. I, T.A. Hrsg Von Köppen und R.Geiger, Berlin, Gebrüder Borntraeger [113 citations].
3. Dimitrijević, M.S., Konjević, N.: 1980, Stark widths of doubly- and triply-ionized atom lines, *J. Quant. Spectrosc. Radiative Transfer* **24**, 451 [74 citations].
4. Dimitrijević, M.S., Sahal-Bréchot, S.: 1984, Stark broadening of neutral helium lines, *J. Quant. Spectrosc. Radiative Transfer* **31**, 301 [48 citations].
5. Konjević, N., Dimitrijević, M.S., Wiese, W.L.: 1984, Experimental Stark widths and shifts for spectral lines of neutral atoms (a critical review of selected data for the period 1976 to 1982, *J. Phys. Chem. Reference Data* **13**, 619 [44 citations].
6. Zappala, V., Farinella, P., Knežević, Z., Paolicchi, P.: 1984, Collisional origin of the asteroid families: Mass and velocity distributions, *Icarus* **59**, 261 [41 citations]
7. Milanković, M.: 1920, Théorie mathématique des phénomènes thérmiques produits par la radiation solaire, Paris, Zagreb, Gauthier - Villars et C^{ie}, Ed. Académie Yougoslave des Sciences et des Arts [37 citations].
8. Oskanjan, V.S., Evans, D.S., Lacy, S., McMillan, R.S.: 1977, An Analysis of the slow light variability of BY Draconis, *Astrophys.J.* **214**, 430 [36 citations].
9. Dimitrijević, M.S., Konjević, N.: 1981, Modified semiempirical formula for the electron-impact widths of ionized atom lines, in Spectral Line Shapes, Vol. 1, ed. B.Wende, Walter de Gruyter, Berlin, New York, p.211 [35 citations].
10. Dimitrijević, M.S., Konjević, N.: 1986, Simple estimates for Stark broadening of ion lines in stellar plasmas, *Astron. Astrophys.* **172**, 347 [35 citations]
11. Zappala, V., Knežević, Z.: 1984, Rotation axes of asteroids: Results for 14 objects, *Icarus* **59**, 436 [32 citations]
12. Konjević, N., Dimitrijević, M.S., Wiese, W.L.: 1984, Experimental Stark widths and shifts for spectral lines of positive ions (a critical review of selected data for the period 1976 to 1982, *J. Phys. Chem. Reference Data* **13**, 649 [29 citations].
13. Lanz, T., Dimitrijević, M.S., Artru, M.C.: 1988, Stark broadening of visible Si II lines in stellar atmospheres, *Astron. Astrophys.* **192**, 299 [29 citations]
14. Dimitrijević, M.S., Konjević, N.: 1986, Simple formulae for estimating Stark widths and shifts of neutral atom lines, *Astron. Astrophys.* **163**, 297 [28 citations]
15. Milani, A., Knežević, Z.: 1990, Secular perturbation theory and computation of asteroid proper elements, *Celestial Mechanics and Dynamical Astronomy* **49**, 347 [28 citations]
16. Milanković, M.: 1938, Astronomische Mittel zur Erforschung der Erdgeschichtlichen Klimate, *Handbuch der Geophysik*, Bd IX, Lieferung 3, Abschniht VII, Hrsg von Beno Gutenberg, Berlin, Gebrüder Borntraeger [26 citations]

In Table 2, astronomers with at least ten citations registered in the Science Citation Index, within the period 1961-1995, and in Table 3, articles with more than 25 citations, are presented.

Finally, the impact factor for Bull. Astron. Belgrade has been determined. The impact factor indicates how often, on the average, an article published by a certain journal in a given two - year period was cited during a particular year. E.g., the 1995 impact factor is obtained by dividing the number of 1995 journal's citations of articles published in 1993-1994, by the total number of articles published in the journal in 1993-1994. Our result is that the 1995 impact factor for Bull. Astron. Belgrade is 0.0235.

References

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