

ПУБЛИКАЦИЈЕ АСТРОНОМСКЕ ОПСЕРВАТОРИЈЕ У БЕОГРАДУ  
PUBLICATIONS OF THE ASTRONOMICAL OBSERVATORY OF BELGRADE

Sv. 52

No. 52

MILAN S. DIMITRIJEVIĆ

БЕОГРАДСКА АСТРОНОМСКА ОПСЕРВАТОРИЈА У 1995  
BELGRADE ASTRONOMICAL OBSERVATORY IN 1995



БЕОГРАД  
1996

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**PUBLICATIONS OF THE ASTRONOMICAL OBSERVATORY OF BELGRADE**

**FOUNDED IN 1947**

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## FOREWORD

The year 1995 was one of sanctions against astronomy in this country, enforced by the despotism of the unscrupulous world's mighty ones, contrary to all solemn international conventions on the freedom of scientific work, contrary to the Declaration on Human Rights, protecting the science and scientists. Nevertheless, we worked hard, contributing to the international science, supported by our numerous friends throughout the world, for whom the universality of science and solidarity with their colleagues was above all unworthy acts of international wielder of might.

In the course of 1995, 128 bibliographic items have been published by our fellows, 9 of which in international scientific journals of highest rank, 3 incorporated in books issued by international publishers, 28 in national journals, 62 as contributed papers at international or national conferences and 6 as circulars. Eleven invited lectures have been given by Observatory's fellows at various conferences, 7 reviews in Serbian and 2 reports having been published.

Of the two regular Observatory's publications, Nos. 151 and 152 of the *BULLETIN ASTRONOMIQUE DE BELGRADE*, as well as Nos. 48, 49 and 50 of the *PUBLICATIONS DE L' OBSERVATOIRE ASTRONOMIQUE DE BELGRADE* have been issued. These publications are regularly sent to 119 institutions and libraries in 43 countries and to 12 institutions within Yugoslavia.

Observatory's fellows have participated in works of 12 international conferences abroad (47 journeys by 21 fellows) and two domestic conferences (9 journeys by 8 fellows).

Organized by the Observatory alone or jointly with our friends were :

1. International Russian-Yugoslav Conference "Newcomb and the Fundamental Astronomy", St. Petersburg, 14 - 17 March, 1995.
2. First Hungarian-Yugoslav Astronomical Conference, Baja, 26 - 27 April, 1995.
3. First Romanian-Yugoslav Round Table on Cooperation in Astronomy, Timisoara, 20 July, 1995.
4. First Yugoslav Conference on Spectral Line Shapes, Krivaja, 11 - 14 September, 1995.

Agreements on collaboration have been signed with observatories in Bucharest, Cluj and Timisoara (12 May 1995), observatory in Kazan, Department of Astronomy and Department of Optics and Spectroscopy of the Kazan State University (18 August 1995), Institute of Molecular and Atomic Physics (Minsk) of the Belarusian Academy of Sciences and Institute of Applied Physical Problems (Minsk) of the State University (15 September 1995), Crimean Astrophysical Observatory, Odessa (27 November, 1995). Apart from this, our Observatory's fellows have maintained collaboration with their colleagues in Belgium, Brazil, Finland, France, Hungary, Italy, Japan, New Zealand, North Ireland and Spain.

We did our best to contribute to the science, but also to the astronomical education and popularization of science and its achievements. Besides numerous newspaper articles and radio and TV emissions they authored, our fellows gave 53 lectures on astronomical subjects outside as well as inside our institution. Hence our Observatory, while holding on its prime task : pursuing research and science, is discharging also another important role of being a centre of cultural life in our country.

## 1. SOME OF THE MAIN RESULTS OF THE OBSERVATORY'S RESEARCH ACTIVITY

Knežević, Ch. Froeschlé, A. Lemaitre, A. Milani and A. Morbidelli (1995) made a comparison between two theories for the calculation of proper elements; the first theory, purely analytical, has been developed by Milani and Knežević; the second one, a semi-numerical approach, is due to Lemaitre and Morbidelli. The analytical theory, based on series expansions in eccentricity and inclination, is particularly suitable for low inclination and low eccentricity orbits, while the semi-numerical one is devoted to orbits with either large eccentricities or large inclinations. The orbits of the minor planets 3710, 1021, 387, 980, 185 have been computed numerically for 4.5 Myrs, and the proper elements have been derived by both algorithms. The RMS values of the changes of the proper elements with time are taken as a measure of the instability. The results confirm the theoretical predictions, namely the Milani and Knežević (MK) proper elements are more stable at low  $e$  and  $I$ , while the stability of the Lemaitre and Morbidelli (LM) proper elements depends very little upon eccentricity and inclination. As a result, the MK elements should be used below about  $15^\circ$  of inclination, and the LM elements should be used above about  $17^\circ$  of inclination. The region between  $15^\circ$  and  $17^\circ$  should be considered as a transition region where both methods have roughly the same stability; therein the use of both data sets and the comparison of the results are recommended. The small values of the instabilities confirm that their long term research program, aimed at providing proper elements for the purpose of asteroid family identification, has been successful to the point that reliable proper elements are now available for all the regions of the asteroid main belt (and also beyond the main belt, taking into account other available results).

At the 65cm refractor of Belgrade Observatory regular measurements of double and multiple stars have been performed by G. M. Popović and R. Pavlović. For 783 triple systems, the probability of the belonging of the component to the system has been estimated.

In connection with the Hipparcos space mission, Damjanović has analyzed observations with the zenith telescope. Obtained results have been sent to the International Working Group for the Earth's Rotation Parameters within the Hipparcos reference frame.

The strongest Fe II lines correspond to 4s-4p and 3d-4p transitions in  $3d^6nl$  and  $3d^54snl$  configurations, covering some 1500 observed lines and accounting for the main part of the intensity of the Fe II spectrum. However, if one wishes to perform more sophisticated calculations of the corresponding Stark broadening parameters needed in astrophysics and laboratory plasma diagnostics, it is not easy to collect the

sufficiently complete energy level set and to avoid the additional difficulties due to configuration interaction and violation of the LS selection rules. The best situation is just with 4s-4p sextets, whose Stark broadening parameters have been determined experimentally recently, where the sufficiently complete energy level set exists and there are not pronounced configuration interactions or critical violations of the LS selection rules, so that the semiclassical calculations may provide more reliable Stark broadening parameters.

By using the semiclassical - perturbation formalism Dimitrijević (1995a) has calculated Stark broadening parameters for singly-ionized iron  $a^6D - z^6P^o$ ,  $a^6D - z^6D^o$  and  $a^6D - z^6F^o$  multiplets, covering 34 lines within 2328.11-2632.108 Å range. The present theoretical full half-widths have been compared with experimental results as well as with the calculations performed by using the modified semiempirical approach and with simple theoretical estimates based on regularities and systematic trends. In such a way, reliable Stark broadening data for astrophysically important Fe II lines have been provided.

Within the same approach, Dimitrijević (1995b) has analyzed Stark broadening parameters for two lines within Ni II  $a^4F - z^4G^o$  multiplet. Spectral lines of ionized nickel have been found for example in the spectra of Gamma Geminorum and 7 Sextantis, stars of A0 V type, where the main pressure broadening mechanism is the Stark effect. Consequently, the corresponding Stark broadening parameters are of astrophysical interest. The recently performed first experimental determination of Ni II Stark widths and shifts is in strong disagreement with available simple estimates. This disagreement has been considered within more sophisticated semiclassical perturbation theory. In spite of the fact that the agreement between the theory and experiment is better now, the differences are still such that a new experiment is of interest.

Stark-broadening parameters for neutral magnesium lines are of interest for laboratory plasma diagnostics and have been investigated experimentally and theoretically. Moreover, lines of neutral magnesium are present in the solar spectrum and the corresponding Stark broadening parameters are of interest for their analysis as well as for the diagnostic of solar plasma. Particularly the infrared lines of Mg I have been observed in the solar spectrum at Kitt Peak and during the Atmos experiment on Spacelab. Due to the fact that with the increase of the principal quantum number the importance of the Stark broadening increases as well, the corresponding Stark widths and shifts are of importance for the structure of solar atmosphere diagnostics. By using the semiclassical - perturbation formalism, Dimitrijević and Sahal - Bréchet (1995a) have calculated electron-, proton-, and ionized argon-impact line widths and shifts for 99 Mg I multiplets. The results for Mg I, along with a comparison with experimental data and other theoretical results and the corresponding analysis have been presented.

The astrophysical interest of oxygen is obvious due to its high cosmical abundance and presence of its different ionization stages in stellar atmospheres. Stark broadening of O IV and O V spectral lines has been investigated several times theoretically and experimentally. In previous theoretical evaluations various approximate approaches have been used or the more sophisticated semiclassical calculations have been performed



only for particular lines. Dimitrijević and Sahal - Bréchet (1995b) have investigated within the semiclassical - perturbation formalism, Stark broadening within O IV and O V spectrum at the instance of 5 O IV and 19 O V multiplets, in order to continue their research of multiply charged ion line Stark broadening parameters. The comparison with available experimental data shows good agreement between experimental and semiclassical values.

Ermolaev, Mihajlov, Ignjatović and Dimitrijević (1995) have presented a detailed study of the ion - atom continuous emission from weakly ionized H, He and some alkali metal plasmas, at thermal velocities of the atomic (ionic) species. The radiative cross sections for photo-associations and charge transfer required in these calculations, have been obtained from a quasistatic model, within the semiclassical adiabatic theory of relative symmetrical ion - atom collisions. The quasistatic two - term model remains valid at temperatures which are much lower than those considered in this work. However, the intensity of continuous emission rapidly falls off as T decreases and the bulk of the radiative energy loss in plasma is channelled through line and band emission from the molecular component of the plasma. Ermolaev et al. (1995) have applied the theory to the calculation of the spectral coefficients of the continuous emission from the H plasma (characteristic of stars), He plasma (characteristic of hydrogen deficient helium rich stars), Li and Na plasmas, in a wide range of physical conditions. By comparing the intensity of continuous emission due to ion - atom collisions with that owing to electron - ion/atom radiative collisions (emissivity ratio F), they have been able to estimate the relative importance of the ion - atom radiative collisions in the total balance of the continuous plasma radiation, over a wide range of T and p, for the near - UV, visible and near - IR parts of the spectrum. It has been established that, for helium plasma, F may reach a value of 5 - 7 in the UV region, whereas for hydrogen plasma F is smaller by an order of magnitude. The suppression of F in the case of hydrogen plasma is due to the dominating photocapture into stable atomic negative ions  $H^-$ . In this respect, the hydrogen and helium plasmas represent two different optical types of gaseous media. The results obtained for the helium plasma are expected to remain qualitatively valid in the case of other inert gases. Calculations of emission coefficients for Li and Na plasmas suggest that, under certain conditions, the contribution of ion - atom radiative collisions to the continuous radiation may be significant. The results are presented in the tabular and graphical forms convenient for applications.

The effect of the processes of radiative charge transfer and photoassociation during  $He^+ + He$  collisional processes, as well as the process of the photodissociation of  $He_2^+$  molecular ion, on the formation of continuous spectrum of the DB white dwarf atmospheres with  $T_{eff} = 12000 - 30000$  K, for  $\log g$  (gravities) = 7 and 8, is studied by Mihajlov, Dimitrijević, Ignjatović and Djurić (1995) within the wavelength range  $\lambda = 200 - 800$  nm. It is shown that for  $T_{eff} \leq 16000$  K, DB white dwarf photospheres continuous spectra must be formed under the important influence of the considered ion-atom radiative processes, while for larger  $T_{eff}$  the basic role have the electron-atom and the electron-ion processes. This is the consequence of the fact that the effect of the considered ion - atom radiative processes increases quickly when the  $T_{eff}$  decreases around  $T_{eff} = 16000$  K. It is found as well, that the influence of

the radiative ion-atom processes increases quickly when  $\lambda$  decreases, especially at the transition from the visible to the UV spectral range. From the shown results it follows that for  $T_{eff} \leq 16000$  K and  $\lambda \leq 400$  nm, ion-atom radiative processes may affect significantly the energetic balance and optical characteristic (opacity and optical depth) of white dwarf atmospheric layers where  $\log(\tau) \leq 1$ . Especially important is the influence on the optical depth values calculated with and without taking into account the considered ion - atom radiative processes. Presented facts suggest the necessity to include ion-atom radiative processes for the white dwarf atmosphere modeling from the beginning and not as an *a posteriori* correction, since they change the reference optical depth needed for the tabulated model parameters. All elements needed for the inclusion of the considered ion - atom radiative processes in the DB white dwarf atmospheres modelling, are presented.

The gravitational field effect on the spectral line shapes is considered by Popović, Vince, Atanacković - Vukmanović and Kubičela (1995) first for the case of an optically thin region near a massive galactic nucleus since the analysis is simpler and because the results thus obtained are useful in a qualitative analysis. In this case the gravitational field causes redshift, broadening and asymmetry of the spectral line profile. A more realistic case of an optically thick region, taking into account the radiative transfer effects, shows qualitatively similar results, except that the broadening is negligible for the considered  $H_\beta$  spectral line. While reduced redshift decreases, the other two effects (broadening and asymmetry) increase with the wavelength of the spectral line. They also depend very much on the distance of the emitting slab from the massive galactic nucleus and, as the considered example of  $H_\beta$  line shows, the redshift and asymmetry of the spectral line are not negligible for the distances less than about  $10^2$  Schwarzschild radii ( $R_S$ ). When the optically thin region was assumed, besides the two mentioned effects, the broadening of the spectral lines is considerable at distances less than  $5 \cdot 10^2 R_S$ . From the present results one may conclude that the gravitational effect may become observable and should be taken into account in analyses of spectral lines originating in sufficiently dense regions around massive nuclei of active galaxies.

Djenize, Skuljan and R. Konjević (1985) present the construction of a plasma source for improving the accuracy of Stark shift measurements. The impulse (AC) discharge was superimposed on the glow (DC) discharge. This allows simultaneous measurements of the profile and the center position of the investigated spectral lines emitted from the same plasma volume, in the case of a DC discharge when the line is unshifted (because of the small electron density), and in the case of a DC + AC discharge with a higher electron density ( $> 10^{22} \text{m}^{-3}$ ), when Stark broadening is the main pressure broadening mechanism. The Stark shift was determined from the difference between spectrum positions of the same spectral line centers registered in DC and DC + AC discharge, at several given electron temperatures and densities in the decaying DC + AC plasma. A large number of experimental papers deal with the broadening of neutral helium and argon spectral lines. However, the only published experimental data for Stark shifts at  $T > 22,000$  K, are those of 5876. and 3889, Å. Djenize et al (1995) have measured Stark shift values for four He I lines at the electron temperature two times higher in comparison to the temperature in existing experimental data, and six Ar I spectral lines, which are important for the diagnosis of astrophysical and

laboratory plasmas. Obtained results are compared to the existing experimental and theoretical data.

On the basis of the observations of double star spectral line profile modulation, by the method of indirect imaging of stars, stellar surface structures have been studied (Jankov).

Regular observations of the stellar radiation optical polarization and spectral observation of the Solar radiation flux for 31 selected spectral lines, have been performed (Vince, Kubičela, Arsenijević, Popović, L.Č., Jevremović, Erkapčić, Marković - Kršljanin).

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## 1. EQUIPMENT AND FACILITIES

The Observatory's main instruments are :

1. Big Refractor – equatorial Zeiss 650/10550 mm.
2. Solar Spectrograph (monochromator) Littrow type, 9000mm/100 000 developed by attaching to the Zeiss equatorial 200/3020 mm two astrocameras Tessar and Petzval 100/800 mm.
3. Large Meridim Circle Askania 190/2578 mm.
4. Large Transit Instrument Askania 190/2578 mm provided with two vacuum meridian marks.
5. Large Vertical Circle Askania 190/2578 mm.
6. Zeiss Astrograph 160/800 mm.
7. Photovisual Refractor Askania 135/1000 and 125/1000 mm.
8. Transit Instrument Bamberg 100/1000 mm.
9. Zenith-Telescope Askania 110/1287 mm.

Of works executed during 1995 at Belgrade Observatory, along with the purchases realized, of particular importance is the following :

- Complete reconstruction of the electric system in the main building has been performed wherewith this longstanding problem has found its full solution;
- Mechanical cleansing of the steam boilers and of the central heating installations has been executed, the safeguards against fire amended by installing iron door toward the coal depot, as well as the iron shutters on the depot's windows.
- Genereal putting in order of the Library, in the course of which 1308 books have been bound in stiff covers.
- Purchased Notebook 486, a computer 386 and a laser printer.

In the pavilions housing the instruments the following works have been carried out :

### 1. SOLAR SPECTROGRAPH

- The performed tinsmith works prevent the rain-water penetration into the pavilion's interior, the ruining of the walls, the damage of the electro-installations, the parquet decay and the corroding of the telescope metal pier.

- The old lime mortar, having been in a bad condition and full of moisture, was removed and replaced by a new hydroinsulating one. In this way the formation of dust is prevented which disturbed normal use of the observing device.

## **2. PHOTOVISUAL REFRACTOR "ASKANIA"**

- The old mortar, decaying and full of moisture, was removed and replaced by a new one (hydroinsulating). In this way the internal surface is protected from the external-water penetration, as is the electro-installation and the complete equipment of the instrument.

## **3. LARGE MERIDIAN CIRCLE "ASKANIA"**

As a result of the tinsmith works, obturator replacing, constructing of the pavement and gutter and of introducing the new hydroinsulating mortar the water (rain) penetration into the pavilion, as well as into substructure (cellar), itself, was completely blocked. Consequently, the ruining of the object as a whole and of the equipment contained in it is prevented.

## **4. "BIG REFRACTOR"**

The electro-motor and the dome-revolving reductor, which had suffered an accident, were both repaired. The new electro-automatic installation activating the system with an electro-motor (asynchronous, three-phase, alternative) having suffered temporary blockade ensures the protecting of the entire system against accident.

## **ELECTRO-WORKS**

Through the newly installed supplying connection the object is supplied by the 220 V voltage necessary for the photoeffect devices, computers, TV report cars, etc (which was not possible until now).

For the needs of the dome electro-motor, platform and of the telescope the old 110 V voltage is preserved being economically positive, because all (existing) electro-devices can still be used.

## **RECONSTRUCTION WORKS**

By removing the old, heaving, facade and by replacing it with a new one, made of cement, the possibilities of an accident and of rain penetration into the pavilion are eliminated. In this way one prevents the mortar ruining on the pavilion internal walls and the formation of dust which has been a hindrance in all telescope observations.

Of particular importance are the reconstruction works on the fixture reinforcement, pouring in of the cement mortar and the refreshment of the relief figure on the pavilion's portal, which was all but decomposed.

## WORKS ON THE TELESCOPE

Almost all of the telescope electro-commands have been out of order. By repairing the existing electro-commands and by installing new ones the telescope was fitted for regulating and adjustment in both right ascension and declination. In addition, it was fitted out for a new electro-automatics of the motor, bulb transformator and a special device for stopping the fast commands (right ascension, declination).

In this way a complete automatisisation and electro-protection of the telescope are achieved.

### 3. BUDGET

Incomes in dinars in the period I – XII 1995

1. Public incomes – incomes from the project "Physics and dynamics of celestial bodies" for the Ministry of Science and Technology of Serbia	847 287.00
2. Resources by the Budget of the Republic of Serbia for the time keeping and geographic coordinates determination service	300 000.00
3. Incomes from the sale of products inside Yugoslavia	580.00
4. Other special incomes (reimbursement of V. Kršljanin's salary)	34 388.86
 TOTAL	 1 182 255.86

I EXPENDITURES ON INVESTMENTS AND INVESTMENTS  
MAINTENANCE OF WORKING MEANS

Kind of work	Performer	Amount in dinars
1. Electro-works in the main Observatory's building	P.P. "EUROPA" Surčin .....	117 091.00
2. Tinsmith works in the dome of the Small Refractor	"TEHNIKUM" Zemun .....	4 400.00
3. Hydroinsulation mortaring of the photovisual refractor "Askania" pavilion	"TEHNIKUM" Zemun .....	5 440.00
4. Tinsmith works in the pavilion of the Large Meridian Circle	"TEHNIKUM" Zemun .....	1 200.00
5. Hydroinsulation in the pavilion of the Small Refractor	"TEHNIKUM" Zemun .....	11 051.00
6. Building in of obturator on the dome of the Meridian Circle	"TEHNIKUM" Zemun .....	3 036.00
7. Pavement-and-gutter making Meridian Circle	"TEHNIKUM" Zemun .....	3 250.00
8. Big Refractor adaptation and appertaining electro-works	"TEHNIKUM" Zemun .....	109 000.00
9. Mechanical and chemical cleansing of the cauldrons and installations in the main building	"RAVNICA" Beograd .....	24 705.00
10. Beginning of the works on ground system for the lightning-rod of the main building	"RAVNICA" Beograd .....	17 500.00
11. Beginning of the works on the reconstruction of a flat in Volgina 7, into an office	ETP-SIGNAL Beograd .....	14 000.00
12. Installing of a special emergency door in the library	"BUGIN" Stojnik .....	1 950.00
- Installing gutter for library	.....	2 200.00
- Installing a metal door in the cauldron room, installing library windows and chimney lid	.....	5 500.00
- Installing a reductor wheel for the crane	.....	800.00
- Providing of the cauldron-room door	.....	400.00
Total expenditure	.....	321 511.00 dinars



II EXPENDITURES FOR THE EQUIPMENT PURCHASE IN 1995

Item	Furnisher	Amount in dinars
1. Computer with additional	"MIKROKOM" Beograd .....	10 644.00
2. Notebook 486	"MIKROTRI" Beograd .....	7 395.00
3. Laser printer	"MIKROKOM" Beograd .....	4 321.00
Total expenditure .....		22 360.00

III EXPENDITURES FOR BOOKS AND JOURNALS BINDING  
IN HARD COVERS IN 1995

Number of books bound in hard cover	Furnisher	Amount in dinars
1. 1308 books	KKR "PAŠTRMAC" Beograd .....	32 724.00
Total expenditure .....		32 724.00

IV EXPENDITURES ON PRINTING PUBLICATIONS  
OF THE ASTRONOMICAL OBSERVATORY IN 1995

Publication	Printed by :	Amount in dinars
1. Bull. Astron. Belgrade No 151	SIV Beograd .....	6 893.94
2. Publ. Obs. Astron. Belgrade No 48	"KOMEX" PEĆ .....	3511.59
3. Bull. Astron. Belgrade No 152	"KOMEX" PEĆ .....	7 200.00
4. Publ. Obs. Astron. Belgrade No 49	"KOMEX" PEĆ .....	6 300.00
5. Publ. Obs. Astron. Belgrade No 50	"KOMEX" PEĆ .....	4 990.00
Total expenditure .....		32 724.00

## V EXPENCES ON MATERIAL, ENERGY, RESERVE PARTS AND SMALL STOCKS

Total expences	.....	61 667.71 dinars
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## VI CURRENT SERVICES AND SERVICES WITH MATERIAL EXPENCES

Total expences	.....	92 121.83 dinars
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VII SPECIAL EXPENDITURES (TAXES, MEALS FOR STAFF, TRAVEL FARES,  
CONTRIBUTIONS CHARGING THE EMPLOYER,  
ANNUAL VACATION REIMBURSEMENT)

Total expences	.....	224 417.09 dinars
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## VIII FINANCING EXPENCES

Total expences	.....	3 401.48 dinars
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## IX GROSS SALARIES

Total expences	.....	391 050.85 dinars
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GRAND TOTAL (I+II+III+IV+V+VI+VII+VIII+IX)		1 178 151.41 dinars
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#### 4.9. TEXT - BOOKS

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Astronomija za IV razred gimnazije  
(Astronomy for IV class of the secondary school)  
Drugo izdanje (Second edition)  
Zavod za udžbenike i nastavna sredstva, Beograd, 1995, 1-133

#### 4.10. CONTRIBUTIONS IN NEWSPAPERS, PROFESSIONAL AND POPULARIZING LITERATURE

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Teslino naučno nasledje  
(TESLA'S SCIENTIFIC LEGACY)  
Tesliana, Vanredni broj, 1995,34.  
Tesla's scientific legacy  
(Translation, Mara Jovanović)  
Tesliana, Vanredni broj, 1995,72.
2. Milan S. Dimitrijević, Blagota D. Žarković,  
Teslino naučno nasledje (Tesla's scientific legacy)  
Patentni Glasnik, Podlistak PG, 5/93, 783.

3. Milan Dimitrijević  
Kalendar (Calendry) u "Svet merenja",  
Galerija SANU i Muzej Nauke i tehnike (in  
"The World of Measurement",  
Galery SANU and Museum of Science and Technics), Beograd 1995, 96.
4. Milan S. Dimitrijević  
Sudar nauke i kvazinauke (The collision between the science and quasiscience)  
Politika, 2.II.1995, 10.
5. Dr Milan Dimitrijević  
Smirujuća lepota kosmosa (The calming beauty of the Universe)  
u "Kosmički herbarijum" (in "Cosmical herbarium")  
Prvoslav Ralić, Prosveta, Niš, 1995, druga strana korica (the second page of the  
cover).
6. Milan S. Dimitrijević  
Rusko - Jugoslovenska konferencija "Njukomb i fundamentalna astronomija" u St.  
Peterburgu (Russian - Yugoslav conference "Newcomb and fundamental astrometry",  
St. Petersburg) Vasiona No. 1 (1995), 16.
7. Milan S. Dimitrijević  
Prva Madjarsko - Jugoslovenska konferencija u Baji (The first Hungarian - Yugoslav  
conference in Baja) Vasiona No. 1 (1995), 16.
8. Milorad Djokić  
Atanasije Stojković profesor Univerziteta u Harkovu  
(Atanasije Stojković Professor of the University in Kharkov)  
u Srbi u carskoj Rusiji (in Serbs in imperial Russia)  
Dunaj, Beograd (1995), 103.
9. Milorad Djokić  
Profesor u Harkovu (Professor in Kharkov)  
Politika Ekspres, 21.XII.1995.
10. Luka Č. Popović  
Naši astronomi u Grčkoj  
(Our astronomers in Greece)  
Vasiona No 3-4, 60.
11. Vojislava Protić - Benišek  
Astronomska opservatorija u Beogradu  
(Astronomical observatory in Belgrade)  
u "Svet merenja", Galerija SANU i Muzej Nauke i tehnike (in "The World of  
Measurement", Galery SANU and Museum of Science and Technics), Beograd 1995,  
98.
12. P.V.B. (V. Protić - Benišek)  
Univerzalni astronomski instrument



- (Universal Astronomical Instrument)  
u "Svet merjenja", Galerija SANU i Muzej Nauke i tehnike (in "The World of Measurement", Galery SANU and Museum of Science and Technics), Beograd 1995, 100.
13. P.V.B. (V.Protić - Benišek)  
Mali pasażni instrument  
(Small Transit Instrument)  
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14. P.V.B. (V.Protić - Benišek)  
Hronograf sa nagaravljenom trakom  
(Soothed fillet Chronograph)  
u "Svet merjenja", Galerija SANU i Muzej Nauke i tehnike (in "The World of Measurement", Galery SANU and Museum of Science and Technics), Beograd 1995, 86.
15. P.V.B. (V.Protić - Benišek)  
Astronomski sat sa klatnom  
(Astronomical Pendulum Clock)  
u "Svet merjenja", Galerija SANU i Muzej Nauke i tehnike (in "The World of Measurement", Galery SANU and Museum of Science and Technics), Beograd 1995, 86.
16. Istvan Vince  
Veliki izbor teleskopa i ostalih astronomskih pomagala  
(Wide choice of telescopes and other astronomical equipment)  
Vasiona No. 1 (1995) Appendix p. 5.

#### 4.11. INTERVIEWS

1. Slobodanka Andrić  
Teleskopom u prošlost. Andromedin put od dva miliona godina  
(With telescope in the past. Andromeda's two million years journey)  
Politika, 2.VII.1995, 13.
2. Borislav Soleša  
Dr Milan Dimitrijević, Čovek na čelu dveju čuvenih beogradskih astronomskih ustanova. Zvezde čitati po zemlji hoditi (Dr Milan Dimitrijević, Heading man of two famous astronomical institutions in Belgrade. To read stars but to walk on the soil) Galaksija, br 250, 1995, 13.
3. Zorica Pantelić  
Astronom o astrologiji : Dr Milan Dimitrijević. Jututunska juhahaha (Astronomer on astrology : Dr Milan Dimitrijević) Borba, 16-17.XII. 1995, 20

4. Vasilij Romanovskij

Dlya nauki ne nuzhno byt' sankcij (Nahodyas' v Minske, nashu redakciyu posetil direktor Belgradskoj observatorii professor Milan Dimitrijevič)  
(There should not be sanctions against science - Visiting Minsk, our editorial office was visited by director of Belgrade Astronomical Observatory professor Milan Dimitrijević) Vechernij Minsk, Minsk, 30.XI.1995, 2.

**4.12. NEWSPAPER ARTICLES ON ASTRONOMICAL OBSERVATORY, ITS ACTIVITY AND ACTIVITY OF ITS FELLOWS**

1. A.Bogdanov

Milun Babić ministar u vladi Srbije posetio Institut za Astronomiju.  
Jugoslavija nema tačno vreme.  
(Milun Babić minister in the Government of Serbia visited Institute of astronomy.  
Yugoslavia has not the exact time.)  
Privredni pregled, 1.03.1995

2. Astronomska opservatorija.

U svet uprkos sankcijama.  
(Astromical Observatory.  
In the world in spite of sanctions.)  
Borba 1.03.1995

3. Ministar Milun Babić posetio Astronomsku opservatoriju na Zvezdari.

Na redu - Tačno vreme.  
(Minister Milun Babić visited Astronomical Observatory on Zvezdara.  
The exact time - next.)  
Večernje novosti, 1.03.1995

4. Slobodanka Andrić

Cezijumski časovnik na Zvezdari još je u kvaru.  
Svako ima svoje vreme.  
(The cesium clock at Zvezdara is still disabled.  
Everybody has his own time.)  
Politika, 5.03.1995, 14.

5. P.Prokopljević

Astronomska opservatorija  
Sve dublje u tajne Vasiona.  
(Astronomical Observatory  
Deeper and deeper in secrets of the Universe.)  
Beogradske novine, 17.03.1995,5.

6. V.Pavlović  
 Jugoslavija već pola godine nema tačno vreme.  
 Satovi mimo sveta.  
 (Yugoslavia half of year without the exact time.  
 Clocks out of the world.)  
 Večernje novosti, 3.04.1995,12.
7. P.P.  
 Opservatorija slavi.  
 (Observatory celebrates.)  
 Beogradske novine, 7.04.1995, 5.
8. P.P.  
 100 godina Astronomske opservatorije.  
 Nagrade naučnicima.  
 (100 years of Astronomical observatory.  
 Prizes to scientists.)  
 Beogradske novine, 14.04.1995,2.
9. S.Andrić  
 Prva Madjarsko-Jugoslovenska astronomska konferencija.  
 Odgovor na samovolju moćnika.  
 (The first Hungarian - Yugoslav astronomical conference.  
 The answer to the despotism of the mighties of this world.)  
 Politika, 23.04.1995, 14.
10. V.D.P.  
 Pogled naslonjen na zvezde.  
 (A look leaning on the stars.)  
 Večernje novosti, 21.V.1995, 14.
11. S.A.  
 U Temišvaru 20. i 21. jula Jugoslovensko -Rumunski okrugli sto o saradnji u astronomiji.  
 (In Timisoara on 20 and 21 july Yugoslav -Rumanian round table on the collaboration in Astronomy.)  
 Politika 19.07.1995, 13.
12. Patricia Manole  
 Ieri, La Observatorul Astronomic din Timisoara A avut loc o masa rotunda intre astronomii sarbi si Romani.  
 (Yesterday, at the Astronomical Observatory in Timisoara Serbian and Rumanian astronomers organized a round table.)  
 Renasterea Banateana, Timisoara, 21.07.1995, 3.

13. A.D.  
Sa skupa jugoslovensko - rumunskih astronoma.  
Zajedničko pomračenje.  
(From the Yugoslav and rumanian astronomers meeting  
Solar eclipse jointly observed.)  
Begradske novine, 28.07.1995, 4.
14. Leanid Min'ko  
Plazma stvarae i yadnae.  
(Plasma creates and unifies.)  
Naviny Akademii navuk Belarusi, Minsk, 17.11.1995,3.
15. Leanid Min'ko  
Belarus' - Jugoslaviya : Nauka ob'edinyaet.  
(Belarus -Yugoslavia : Science unifies.)  
Central'naya gazeta, Minsk, 27.10.1995,3.
16. Leanid Min'ko  
V roli diplomatov - uchenye.  
(Scientists as diplomats.)  
Vechernij Minsk, 8,11,1995, 1.
17. Druzheskaya vstrecha.  
(Friendly meeting.)  
Tovarishchi, 24.XI.1995,2.
18. Leanid Min'ko  
Dzelavy i syabrouski vizit.  
(Working and friendly visit.)  
Naviny Akademii Navuk Belarusi, 15.XII.1995.
19. Milan Jeličić  
Godišnjice i nagrade.  
(Aniversaries and prizes.)  
Vasiona, No. 3-4, 1995, 56.
20. Hroničar  
O kalendaru na KNU.  
(On calendar at KNU.)  
Vasiona No. 3-4, 1995, 57.
21. Milan Jeličić  
Sudari u Sunčevom sistemu.  
(Collisions in Solar system.)  
Vasiona No 3-4, 1995. 57.
22. Dejan Urošević  
Poricanje astrologije.  
(Denying astrology.)  
Vasiona No 3-4, 1995, 58.

23. Tatjana Milovanov  
XIII Beogradski astronomski vikend - BAV '95.  
(XIII Belgrade astronomical weekend - BAV '95.)  
Vasiona No 3-4, 60.
24. Dragan Rumencić  
Predlog za modernizaciju instrumenata na Astronomskoj opservatoriji.  
(A proposal for the instruments modernization at Astronomical Observatory)  
Vasiona No 2, 1995, 3 page of cover.

**4.13. UNPUBLISHED COMMUNICATIONS  
ON CONFERENCE PROGRAMMES AS  
INVITED LECTURES OR ORAL PRESENTATIONS**

1. M.S.Dimitrijević  
ASTRONOMIYA V SERBII VO VREMYA N'YUKOMA (ASTRONOMY IN SERBIA IN NEWCOMBS TIME)  
International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.
2. S.Sadžakov, Z.Cvetković, M.Dačić,  
DNEVNYE NABLUJENIYA SOLNCA I PLANET NA BELGRADSKOJ ASTRONOMICHSKOJ OBSERVATORII (DAY OBSERVATIONS OF SUN AND PLANETS AT BELGRADE ASTRONOMICAL OBSERVATORY)  
International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.
3. S.Sadžakov, Z.Cvetković, M.Dačić,  
OCENKA TOCHNOSTI BELGRADSKOGO KATALOGA DVOJNYKH ZVEZD (THE ACCURACY ESTIMATION OF THE BELGRADE DOUBLE STAR CATALOGUE),  
International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.
4. S.Sadžakov, Z.Cvetković, M.Dačić,  
OCENKA TOCHNOSTI BELGRADSKOGO KATALOGA ZVEZD OKOLO RADIO ISTOCHNIKOV (THE ACCURACY ESTIMATION OF THE BELGRADE CATALOGUE OF STARS NEAR RADIO SOURCES),  
International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.
5. S.Sadžakov, S.A.Tolchel'nikova,  
N'YUKOM I ZVEZDNAYA ABERRACIYA (NEWCOMB AND STELLAR ABERRATION)  
International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.

## 5. LECTURES HELD BY THE OBSERVATORY'S FELLOWS

### 5.1. LECTURES HELD AT THE ASTRONOMICAL OBSERVATORY

1. 17.05.1995  
A.A.Mihajlov, M.S.Dimitrijević, Lj.Ignjatović, Z.Djurić  
Radiative  $\text{He}^+(1s) - \text{He}(1s^2)$  processes in white dwarf atmospheres
2. 24.05.1995  
S.Jankov  
Observation organization at observatories of the Western European Community
3. 31.05.1995  
J.Milogradov - Turin, S. Nikolić  
Differential spectral indexes
4. 7.06.1995  
L.Č.Popović, O.Atanacković - Vukmanović, I.Vince, A. Kubičela  
Emission lines asymetry at AGN : The effect of the gravitational red shift
5. 27.06.1995  
N.Polosukhina (Crimean Astrophysical Observatory, Nauchny)  
The Crimean Observatory - Today
6. 29.06.1995  
N.Polosukhina (Crimean Astrophysical Observatory, Nauchny)  
The investigation of CP stars at Crimean Observatory
7. 25.10.1995  
M.S.Dimitrijević  
"Progress in astrophysics". The Conference of the European Astronomical Society.
8. 8.11.1995  
M.S.Dimitrijević  
Astronomy in Tatarstan, Estonia, Latvia and Lithuania
9. 22.11.1995  
G.Djurašević  
Close binary systems investigation

10. 20.12.1995

A.A. Mihajlov, Lj. M. Ignjatović, M.S. Dimitrijević

Electron-ion-atom recombination processes in Solar atmospheres

## 5.2. LECTURES HELD BY THE OBSERVATORY'S FELLOWS OUTSIDE THE ASTRONOMICAL OBSERVATORY

1. 19.1.1995

M.S.Dimitrijević

The beginning and the final fate of the Universe.

Rotary club Beograd.

2. 25.1.1995

M.S.Dimitrijević

The beginning and the final fate of the Universe.

Secondary school in Smederevska Palanka.

3. 3.2.1995

M.S.Dimitrijević

The beginning and the final fate of the Universe.

Secondary school in Smederevo.

4. 13.2.1995

I.Vince

Formation of the Sun.

The seminar on astronomy,

1st school for astronomy, Petnica

5. 13.2.1995

I.Vince

Formation of the Solar system.

The seminar on astronomy,

1st school for astronomy, Petnica

6. 13.2.1995

I.Vince

Physical properties of the Sun.

The seminar on astronomy,

1st school for astronomy, Petnica

7. 16.2.1995

S.Ninković

Stellar systems.

The seminar on astronomy,

1st school for astronomy, Petnica

8. 3.3.1995  
M.S.Dimitrijević  
Walking across the Solar system.  
Secondary school in Ub.
9. 6.3.1995  
I.Vince  
Physical processes influencing spectra formation of celestial bodies  
The seminar on astronomy 2, Petnica
10. 6.3.1995  
I.Vince  
Determination of celestial bodies physical parameters from spectra observations.  
The seminar on astronomy 2, Petnica
11. 7.3.1995  
O.Atanacković - Vukmanović  
Radiation laws.  
The seminar on astronomy 2, Petnica
12. 7.3.1995  
O.Atanacković-Vukmanović  
The formation of spectral lines.  
The seminar on astronomy 2, Petnica
13. 7.3.1995  
I.Vince  
Construction of spectroscopic equipment.  
The seminar on astronomy 2, Petnica
14. 8.3.1995  
L.Popović  
Spectra of celestial bodies.  
The seminar on astronomy 2, Petnica
15. 8.3.1995  
D.Jevremović  
Photometry.  
The seminar on astronomy 2, Petnica
16. 9.3.1995  
G.Djurašević  
Variable stars - classification.  
The seminar on astronomy 2, Petnica
17. 9.3.1995  
G.Djurašević  
Close star pairs.  
The seminar on astronomy 2, Petnica



18. 9.3.1995  
S.Ninković  
Chemical evolution in Galaxy.  
The seminar on astronomy 2, Petnica
19. 10.3.1995  
S.Jankov  
Astronomical observatories II (La Silla-Chile, Meudon-France and IAC).  
The seminar on astronomy 2, Petnica
20. 10.3.1995  
D.Jevremović  
Observations of variable stars.  
The seminar on astronomy 2, Petnica
21. 1.4.1995  
M.S.Dimitrijević  
Walking across the Solar systemu.  
Pedagogical faculty, Sombor.
22. 17.4.1995  
G.Popović, M.Dačić  
Round table : "What astronomers think about astrology".  
Kolarčev narodni univerzitet (People's university Kolarac) Beograd
23. 21.4.1995  
D.Jevremović  
Physics of variable stars.  
The first spring seminar on astronomy, Petnica.
24. 21.4.1995  
D.Jevremović  
Methods of observation and of reduction of observational data.  
The first spring seminar on astronomy, Petnica.
25. 29.4.1995  
S.Sadžakov  
Terrestrial and cosmic determination of celestial bodies positions .  
Pedagogical faculty, Sombor.
25. 4.5.1995  
M.S.Dimitrijević  
Walking across the Solar system.  
Secondary school in Ljubovija.
26. 10.5.1995  
M.S.Dimitrijević  
L'Astronomie en Yougoslavie.  
Astronomical Institute Bucarest.

27. 16.5.1995  
D.Jevremović  
On variable stars and visual observations of variable stars.  
The first spring seminar on astronomy, Petnica.
28. 16.5.1995  
M.S.Dimitrijević  
The beginning and the final fate of the Universe.  
Rotary club, Zemun.
29. 9.6.1995  
L.Č.Popović  
Galaxies with active nuclei.  
XIII Belgrade astronomical weekend (BAV), Planetarium, Belgrade.
30. 22.06.1995.  
M.S.Dimitrijević  
Astronomers and the universality of science.  
Rotary club, Beograd.
31. 16.08.1995  
M.S.Dimitrijević  
1. Applications of Stark broadening data.  
2. Stark broadening investigations in Yugoslavia.  
Department of Optics of the Kazan Physical faculty, Kazan, Tatarstan, Russia.
32. 17.08.1995  
M.S.Dimitrijević  
Astronomical Observatory in Belgrade.  
Department of Optics of the Kazan Physical faculty, Kazan, Tatarstan, Russia.
33. 22.08.1995  
M.S.Dimitrijević  
1. Astronomical Observatory in Belgrade.  
2. Spectral line broadening in astrophysical plasmas.  
Astronomical Observatory, Toravere, Tartu, Estonia.
34. 25.08.1995  
M.S.Dimitrijević  
Astronomical Observatory in Belgrade.  
Astronomical Observatory of the University, Riga, Latvia.
35. 28.08.1995  
M.S.Dimitrijević  
1. Astronomical Observatory in Belgrade.  
2. Spectral line broadening in astrophysical plasmas.  
Institute of theoretical physics and astronomy, University in Vilnius, Lithuania.

36. 6.10.1995  
S.Ninković  
Stellar systems.  
The first autumn seminar on astronomy "Stellar astronomy", Petnica.
37. 6.10.1995  
G.Popović  
Double and multiple star systems.  
The first autumn seminar on astronomy "Stellar astronomy", Petnica.
38. 6.10.1995  
R.Pavlović  
Moving clusters.  
The first autumn seminar on astronomy "Stellar astronomy", Petnica.
39. 7.10.1995  
V.Trajkowska  
Criteria of stellar system stability - Agekjan's factor.  
The first autumn seminar on astronomy "Stellar astronomy", Petnica.
40. 27.10.1995  
S.Sadžakov  
The importance and the role of stellar catalogues in astronomy.  
The second autumn seminar on astronomy "Fundamental astronomy", Petnica.
41. 27.10.1995  
G.Damljanović  
Talkot's method and Belgrade latitude observations with zenith - telescope.  
The second autumn seminar on astronomy "Fundamental astronomy", Petnica.
42. 27.10.1995  
Dj. Božičković  
The methodology of absolute and quasi absolute determination of fundamental stars declinations.  
The second autumn seminar on astronomy "Fundamental astronomy", Petnica.
43. 28.10.1995  
M.Dačić  
Fundamental formulas of Spherical trigonometry and the formulas derivation for the method of equal zenith distances.  
The second autumn seminar on astronomy "Fundamental astronomy", Petnica.
44. 2.11.1995  
M.S.Dimitrijević  
The beginning and the final fate of the Universe.  
Montenegrin Academy of Sciences and Arts, Podgorica.

45. 8.11.1995  
M.S.Dimitrijević  
The contribution of amateurs to the development of astronomy.  
The tribune of inventors "Teslianum".  
The House of Engineers and Technicians, Belgrade.
46. 17.11.1995  
M.S.Dimitrijević  
Spectral line broadening in plasmas : Astrophysical applications.  
Institute of Atomic and Molecular Physics, Minsk, Belarus.
47. 20.11.1995  
M.S.Dimitrijević  
1. Spectral line broadening in astrophysics.  
2. Astronomical observatory in Belgrade.  
Astronomical Observatory, Kiev, Ukraina.
48. 24.11.1995  
M.S.Dimitrijević  
1. Spectral line broadening in astrophysics.  
2. Astronomy in Serbia.  
Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraina.
49. 27.11.1995  
M.S.Dimitrijević  
1. Spectral line broadening in astrophysics.  
2. Astronomy in Serbia.  
Astronomical Observatory, Odessa, Ukraina.
50. 8.12.1995  
M.S.Dimitrijević  
The beginning and the final fate of the Universe.  
Pedagogical academy, Kikinda.
51. 9.12.1995  
M.S.Dimitrijević  
Walking across the Solar system.  
Pedagogical academy, Kikinda.
52. 28.12.1995  
M.S.Dimitrijević  
Astrology – truth or myth?  
Rotary club, Belgrade.

## 6. TV AND RADIO EMISSIONS

1. Cele godine M.Dačić je davao obdanice u Jutarnjem programu na Prvom programu Radio Beograda.  
All year round, M.Dačić presented data on the duration of day and night, in the Morning programme of the Radio Beograd first programme.
2. Svet kometa, februar, 6 TV emisija (produkcija 1987) na Školskom programu. Autor scenarija i voditelj M.S. Dimitrijević.  
The world of comets, February, 6 TV emissions (1987 production) on School programme. The author of scenario and emission host M.S. Dimitrijević.
3. Astronomska početnica, mart - maj, 9 TV emisija (produkcija 1992) na Školskom programu. Autor scenarija i voditelj M.S. Dimitrijević  
Astronomy for beginners, March - May, 9 TV emissions (1992 production) The author of scenario and emission host M.S. Dimitrijević.
4. Pozajmljena planeta : Uzroci ekoloških katastrofa II Program TV Beograd, 28. 02. 1995. Učesnik M.S. Dimitrijević  
The borrowed planet : Causes of ecological catastrophes TV Beograd, II Programme, 28.02.1995 Participant M.S. Dimitrijević.
5. Naučni forum : Kosmologija, TV Beograd II program, 19.12.1995.  
Scientific Forum : Cosmology, TV Beograd, II Programme, 19.12.1995. Participant M.S. Dimitrijević.

## 7. PUBLISHING ACTIVITY

### 7.1. EDITIONS OF THE ASTRONOMICAL OBSERVATORY

1. BULLETIN ASTRONOMIQUE DE BELGRADE  
M. S. Dimitrijević - editor in chief  
L. Č. Popović - editor  
O. Atanacković - Vukmanović, Secretary  
S. Sadžakov - member of the editorial board  
I. Vince - member of the editorial board
2. PUBLICATIONS DE L' OBSERVATOIRE ASTRONOMIQUE DE BELGRADE  
M. S. Dimitrijević - editor in chief  
O. Atanacković - Vukmanović, editor  
Z. Knežević - member of the editorial board  
S. Ninković - member of the editorial board  
L. Č Popović - member of the editorial board  
V. Protić - Benišek - member of the editorial board  
S. Sadžakov - member of the editorial board  
I. Vince - member of the editorial board
3. BILTEN REFERATA ZA IZBOR U ZVANJA, Astronomske opservatorije (BULLETIN OF REPORTS ON CANDIDATES FOR ACADEMIC RANKS)  
M. S. Dimitrijević - editor

### 7.2. EDITIONS WHEREIN FELLOWS OF ASTRONOMICAL OBSERVATORY ARE AT EDITORIAL BOARDS OR SCIENTIFIC COUNCELS

1. VASIONA (UNIVERSE)  
M. S. Dimitrijević - editor in chief  
L. Č. Popović - assistant editor
2. MLADI FIZIČAR (YOUNG PHYSICIST)  
M. S. Dimitrijević - member of the publishing council

3. STUDIJE, ANALIZE, POLITIKE  
(STUDIES, ANALYSES, POLITICS)  
Savezno ministarstvo za razvoj, nauku i životnu sredinu  
(Federal Ministry for development, science and environment)  
M. S. Dimitrijević - member of the editorial board
4. EKONOMSKI PREGLED  
(ECONOMICAL SURWAY)  
Savezno ministarstvo za razvoj, nauku i životnu sredinu  
(Federal Ministry for development, science and environment)  
M. S. Dimitrijević - member of the editorial board
5. FLOGISTON časopis za istoriju nauke, Muzej nauke i tehnike (Journal for the history of science, Museum of science and technics), Beograd  
M. S. Dimitrijević - member of the scientific council
6. Biblioteka "DISSERTATIO" (Edition "DISSERTATIO") Zadužbina Andrejević  
(Andrejević foundation)  
M. S. Dimitrijević - president of the editorial board and member of the scientific council of the foundation.

## 8. ORGANIZATION OF CONFERENCES

1. International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.

Organizing committee

M.S. Dimitrijević

V.Protić-Benišek

2. I Hungarian-Yugoslav Astronomical conference, Baja 26-27.IV.1995.

Scientific organizing committee

M.S. Dimitrijević, Co-chairman

I.Vince

Local organizing committee

I.Vince, Chairman

3. Prirodne i matematičke nauke u Srba u 18. i prvoj polovini 19. veka. (Natural and Mathematical Sciences among Serbs in 18th and the first half of 19th century), Novi Sad, 26-27.06.1995

Scientific organizing committee

M.S. Dimitrijević

4. Romanian - Yugoslav round table on cooperation in astronomy, Timisoara, 20. VII. 1995

Organizing committee

M.S. Dimitrijević, Co-chairman

5. I Yugoslav conference on spectral line shapes, Krivaja, 11-14.09.1995

Scientific organizing committee

M.S. Dimitrijević, Chairman

I.Vince

Local organizing committee

L.Popović, Chairman

O.Atanacković - Vukmanović

D. Jevremović



## 9. MEMBERSHIP IN INTERNATIONAL AND NATIONAL SCIENTIFIC SOCIETIES AND BODIES

### 9.1. MEMBERSHIP IN INTERNATIONAL SCIENTIFIC SOCIETIES

#### 1. International Astronomical Union

J. Arsenijević

M.S. Dimitrijević (Commissions 14, 36)

G. Djurašević

Z. Knežević (Commissions 7, 15 (Member of the organizing committee), 20)

A. Kubičela (Commission 12)

S. Ninković

I. Pakvor (Commission 8)

G. Popović (Commission 26)

V. Protić - Benišek (Commission 20)

S. Sadžakov (Commission 8)

I. Vince

#### 2. European Astronomical Society

J. Arsenijević

O. Atanacković - Vukmanović

Z. Cvetković

M. Dačić

M.S. Dimitrijević

S. Ninković

L.Č. Popović

V. Protić - Benišek

S. Sadžakov

I. Vince

#### 3. European Physical Society

M.S. Dimitrijević

#### 4. Euro-Asian Astronomical Society

M.S. Dimitrijević

S. Ninković

5. Hungarian Astronomical Society  
I. Vince
6. American Astronomical Society  
I. Vince
7. Astronomische Gesellschaft  
S. Ninković  
S. Sadžakov
8. International Occultation Timing Association - European Section  
V. Protić - Benišek

## 9.2. MEMBERSHIP IN NATIONAL ASTRONOMICAL AND OTHER PROFESSIONAL SOCIETIES AND BODIES

1. Društvo astronoma Srbije (Society of astronomers of Serbia)  
S. Sadžakov, president  
M.S. Dimitrijević, member of the presidential board
2. Nacionalni komitet za astronomiju (National committee for astronomy)  
Z. Knežević, President  
M.S. Dimitrijević  
I. Vince
3. Astronomsko društvo "Rudjer Bošković" (Astronomical society "Rudjer Bošković")  
M.S. Dimitrijević, President  
Z.Knežević, member of the presidential board  
L.Č. Popović, member of the presidential board  
V.Protić - Benišek, member of the presidential board
4. Odbor za Astro - geo nauke (za period 1991 - 1995) Board for Astro - Geo Sciences (for 1991 - 1995)  
Z.Knežević - member
5. Odbor za matematiku, mehaniku i astronomiju Ministarstva za nauku i tehnologiju Srbije (formiran za period 1996 - 2000) Board for mathematics, mechanics, and astronomy of the Ministry of Science and Technology of Serbia (for 1996-2000)  
I. Vince - member

6. Stručno veće za mehaniku, astronomiju i astrofiziku (Professional Council for mechanics, astronomy and astrophysics)

I. Vince - member

7. Veće za izbor u univerzitetska zvanja za matematiku, mehaniku i astronomiju (Council for the election to University degrees for mathematics, mechanics and astronomy)

I. Vince - member

8. Radna grupa za pripremu rešenja za ostvarivanje Jugoslovenskog primarnog etalona vremena i frekvencije i distribucije etalona frekvencije i vremena SR Jugoslavije (Working group for the preparation of the solution for the realization of Yugoslav time and frequency primary standard and the distribution of the Yugoslav time and frequency standard)

V.Protić - Benišek - member

## 10. VISITING DIGNITARIES OF THE ASTRONOMICAL OBSERVATORY

28.02.1995.

Prof. Dr Milun Babić, Minister in the Government of Serbia

7.04.1995.

Radonja Minić, Vice Minister for Development, Science and Environment Protection, in the Federal government

2-10.5.1995.

Dr Mario Carpino, Osservatorio astronomico di Brera, Milano, Italy.

24-30.06.1995.

Dr Nina Polosukhina, Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraina

10-16.09.1995.

Prof. Dr Aleksandr Pavlovich Vojtovich, Institute of Molecular and Atomic Physics, Minsk, Belarus

10-16.09.1995.

Prof. Dr Leonid Yakovlevich Min'ko, Institute of Molecular and Atomic Physics, Minsk, Belarus

10-17.09.1995.

Dr Gillian Peach, Department of Physics and Astronomy, University College, London, England

17-22.09.1995

Dr Alexei Gaina, Astronomical Observatory, Chisinau, Moldavia

13-16.12.1995.

Prof. Dr. Myakzyum Khalimullovich Salakhov, Department of Optics and Spectroscopy, Kazan State University, Kazan, Tatarstan, Russia

## 11. THE ATTENDANCE OF SCIENTIFIC CONFERENCES

1. International (Russian - Yugoslav) conference "Newcomb and the fundamental astronomy", St. Peterburg 14-17.III.1995.

M.S. Dimitrijević  
V.Protić-Benišek  
S.Sadžakov

2. I Hungarian-Yugoslav Astronomical Conference, Baja 26-27.IV.1995.

O. Atanacković-Vukmanović  
Z. Cvetković  
G. Damljanović  
M.S. Dimitrijević  
G. Djurašević  
S. Erkapić  
S. Jankov  
D. Jevremović  
Z. Knežević  
S. Marković-Kršljanin  
S. Ninković  
I. Pakvor  
L.Č. Popović  
S. Sadžakov  
I. Vince

3. Gravimetry, Geodesy and Geophysics of the Moon, Pisa 8-10.VI.1995.

Z.Knežević

4. 17th Symposium on Plasma Physics and Technology, Prague, 13-16.07.1995  
M.S.Dimitrijević

5. II Hellenic Astronomical Conference, Perea (Thessaloniki), 29.06-2.07.1995

J. Arsenijević  
G. Damljanović  
M.S. Dimitrijević  
S. Erkapić  
S. Marković-Kršljanin

R. Pavlović  
G. Popović  
L.Č. Popović  
S. Sadžakov  
V. Trajkovska

6. Prirodne i matematičke nauke u Srba u 18. i prvoj polovini 19. veka. (Natural and Mathematical Sciences among Serbs in the 18th and the first half of the 19th century), Novi Sad, 26-27.06.1995.

M.S.Dimitrijević  
M.Djokić  
I.Pakvor  
V.Protić-Benišek

7. IAU Symposium 172, Dynamique, Éphémérides et Astrométrie du Système Solaire, Paris, 3-8.07.1995

G.Damljanović  
Z.Knežević  
I.Pakvor  
V.Protić - Benišek

8. Romanian - Yugoslav round table on cooperation in astronomy, Timisoara, 20. 07. 1995

J. Arsenijević  
Z. Cvetković  
M. Dačić  
M.S. Dimitrijević  
S. Jankov  
D.Jevremović  
L.Č. Popović  
I. Vince

9. Structure and evolution of stellar systems, Petrozavodsk, 13-17.08.1995

S. Ninković

10. I Yugoslav conference on spectral line shapes, Krivaja, 11-14.09.1995

O.Atanacković - Vukmanović  
M.S. Dimitrijević  
G. Djurašević  
D. Jevremović  
L.Popović  
I.Vince

11. Journées 1995 "Systèmes de Référence Spatio - Temporels" : Earth Rotation, Reference Systems in Geodynamics and Solar System, Warszawa, 18-20.09.1995.  
G. Damljanović
12. JENAM-95 (Joint 4th European Astronomical Society Conference and 39th Conference of the Italian Astronomical Society), Catania, 25-29.09.1995  
M.S.Dimitrijević
13. Cool stars, Stellar systems and the Sun, Florence, 3-6.10.1995  
M.S.Dimitrijević
14. 176 IAU Symposium, Stellar surface structure, Vienna 9-14.10.1995  
S.Jankov

## 12. VISITS TO SCIENTIFIC INSTITUTIONS

1. 1.02-28.03 1995  
Dipartimento di matematica, Pisa, Italy  
Z. Knežević
2. 15.02-31.12.1995  
Department of Physics and Astronomy, University of Canterbury,  
Christchurch, New Zealand.  
Lj. Skuljan
3. 7-12.03 1995  
Osservatorio astronomico di Brera, Milano, Italy  
Z. Knežević
4. 9-23.03 1995  
Main Astronomical Observatory of the Russian Academy of Sciences, Pulkovo, St.  
Petersburg, Russia  
M.S.Dimitrijević  
V.Protić-Benišek  
S.Sadžakov
4. 9-14.05 1995  
Astronomical Institute of the Romanian Academy of Sciences, Bucarest, Romania  
M.S.Dimitrijević
5. 14-31.08.1995  
Department of Optics and Spectroscopy of the Kazan State University,  
Department of Astronomy of the Kazan State University  
Engelkhart's Astronomical Observatory  
Kazan Aviation Institute, Kazan, Tatarstan, Russia  
Institute for Astrophysics and Atmospheric Physics,  
Toravere, Estonia  
Astronomical Observatory, Tartu, Estonia  
Astronomical Observatory, Talin, Estonia  
Astronomical Observatory of the University, Riga, Latvia  
Astronomical Observatory of the University, Vilnius, Lithuania  
Institute for theoretical physics and astronomy, Vilnius, Lithuania  
M.S.Dimitrijević



6. 15-31.08.1995  
 GAIŠ - Main Astronomical Institute "Šternberg"  
 State University, St. Petersburg  
 State University, Petrozavodsk  
 S.Ninković
7. 15.09 - 15.12.1995  
 Observatory, University of Helsinki, Finland  
 S. Jankov
8. 18.09-18.11.1995  
 Department of Astronomy, Eötvös Lorand University, Budapest,  
 Konkoly Observatory, Budapest  
 I.Vince
9. 11.11-1.12.1995  
 Institute of Molecular and Atomic Physics, Minsk, Belarus  
 Institute for applied physical problems, of the Belorussian state university, Minsk,  
 Belarus  
 Academy of Sciences, Minsk, Belarus  
 Astronomical Observatory, Goloseevo, Kiev, Ukraina  
 Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraina  
 Astronomical Observatory, Odessa, Ukraina  
  
 M.S.Dimitrijević  
 L.Č. Popović
10. 1.11-31.12.1995  
 Armagh Observatory, Armagh, Northern Ireland  
 D. Jevremović
11. 21.11-9.12  
 Dipartimento di matematica, Pisa, Italy  
 Z. Knežević

### 13. INTERNATIONAL SCIENTIFIC COLLABORATION

Institute of Molecular and Atomic Physics, Minsk, Belarus (Agreement on collaboration signed 15. 09. 1995)

Scientific-Research Institute for Applied Physical Problems, of The Belarussian State University, Minsk, Belarus (Agreement on collaboration signed 15. 09. 1995)

FUNDP, Dept. Mathematique, Namur, Belgia (Z. Knežević)

Observatoire Royale de Belgique, Uccles, Belgia (V. Protić - Benišek)

Instituto Astronomico e Geofisico - USP, Sao Paulo, Brasil (S. Jankov)

Observatory, University of Helsinki, Finland (S. Jankov)

Observatoire de Paris, Meudon, France (M.S.Dimitrijević)

Observatoire de Nice, Nice, France (Z.Knežević)

Department of Astronomy, Eötvös Lorand University, Hungary (I.Vince)

Konkoly Observatory, Hungary (I.Vince)

Dipartimento di matematica, Universita di Pisa, Pisa, Italy (Z. Knežević)

Osservatorio astronomico di Brera, Milano, Italy (Z.Knežević)

ILOC - International Lunar Occultations Center, Tokio, Japan (V. Protić - Benišek)

Department of Physics and Astronomy, University of Canterbury, Christchurch, New Zealand (Lj. Skuljan)

Armagh Observatory, Armagh, Northern Ireland (D. Jevremović)

Astronomical Observatory, Bucharest, Romania (Agreement on collaboration with Astronomical Institute of the Romanian Academy of Sciences, signed 12. 05. 1995)

Astronomical Observatory, Cluj - Napoca, Romania (Agreement on collaboration with Astronomical Institute of the Romanian Academy of Sciences, signed 12. 05. 1995)

Astronomical Observatory, Timisoara, Romania (Agreement collaboration with Astronomical Institute of the Romanian Academy of Sciences, signed 12.05.1995)

GAIŠ - Main Astronomical Institute "Šternberg", Moskwa, Russia (G. Djurašević, S. Ninković)

St. Petersburg State University, St. Petersburg, Russia (S.Ninković)

Institute of Theoretical Astronomy (ITA), St. Petersburg, Russia (V. Protić - Benišek)

Petrozavodsk State University, Petrozavodsk, Russia (S.Ninković)

Pulkovo Observatory, Pulkovo, St.Petersburg, Russia (Z.Cvetković, M.Dačić, I. Pa-kvor, V.Protić - Benišek, S.Sadžakov)

Department of Optics and Spectroscopy, Kazan State University, Kazan, Tatarstan, Russia (Agreement on collaboration, signed 18.08.1995)

Department of Astronomy, Kazan State University, Kazan, Tatarstan, Russia (Agreement on collaboration, signed 18.08.1995)

Engelkhart Astronomical Observatory, Kazan, Tatarstan, Russia (Agreement on collaboration, signed 18.08.1995)

Catalonian Polytechnical University, Barcelona, Spain (S. Ninković)

Astronomical Observatory of Odessa State University "I.I. Mechnikov", Odessa, Ukraina (Agreement on collaboration, signed 27.11.1995)

Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraina (Agreement on col-laboration, signed 24.11.1995)

## 14. PEDAGOGICAL ACTIVITY

### 14.1. LECTURES AT THE UNIVERSITY AND ACADEMIES

1. O. Atanacković -Vukmanović  
THEORETICAL ASTROPHYSICS  
Department of Astronomy, Mathematical Faculty  
(lectures and exercises) IV year.
2. M. Dačić  
GEODESIC ASTRONOMY  
Military Technical Academy,  
(exercises) IV year
3. M.S. Dimitrijević  
ASTRONOMICAL SPECTROSCOPY  
Department of Astronomy, Mathematical Faculty  
Postgraduate studies II year
4. S. Sadžakov  
GEODESIC ASTRONOMY  
Military Technical Academy,  
(lectures) IV year
5. I. Vince  
PRACTICAL ASTROPHYSICS  
Department of Astronomy, Mathematical Faculty  
(lectures and exercises) III year.
6. I. Vince  
METHODS AND TECHNIQUE OF OBSERVATIONS  
Department of Astronomy, Mathematical Faculty  
Postgraduate studies II year

## 14.2. M. Sc THESES

1. Neli Kristin Todorović-Vasović  
ANALIZA UPROŠĆENOG SEMIKLASIČNOG PRILAZA ZA PRORAČUN  
PARAMETARA ŠTARKOVOG ŠIRENJA SPEKTRALNIH LINIJA NEUTRAL-  
NIH ATOMA  
(ANALYSIS OF THE SYMPLIFIED SEMICLASSICAL APPROACH FOR THE  
CALCULATION OF STARK BROADENING PARAMETERS FOR NEUTRAL  
ATOM SPECTRAL LINES)  
Beograd, Fizički fakultet (Physical Faculty), 1995.  
(Mentor M.S. Dimitrijević)
2. Sanja Erkapić  
ODREDJIVANJE OSETLJIVOSTI FRAUNHOFEROVIH  
LINIJA NA PROMENE FOTOSFERSKIH KARAKTERISTIKA  
(THE DETERMINATION OF FRAUNHOFER LINES SENSIBILITY TO  
THE PHOTOSPHERIC CHARACTERISTICS CHANGES)  
Beograd, Matematički fakultet (Mathematical Faculty), 1995  
(Mentor I.Vince)

**15. LIST OF INSTITUTIONS RECEIVING  
BULL. ASTRON. BELGRADE AND  
PUBL. OBS. ASTRON. BELGRADE**

**1. ALGERIA**

Algiers Observatory, Bouzareah, Algiers, Algeria

**2. ARGENTINA**

Naval Observatory, Buenos Aires, Argentina

**3. ARMENIA**

Byurakan Astrophysical Observatory, Byurakan, Armenia

**4. AUSTRALIA**

Sydney Observatory, Sydney, Australia

**5. AUSTRIA**

L.Figl Astrophysical Observatory, University of Vienna, Vienna, Austria  
University of Graz Observatory, Graz, Austria

**6. BELARUS**

Institute of Molecular and Atomic Physics, Minsk, Belarus  
Belarusian State University Astronomical Observatory, Minsk, Belarus

**7. BELGIA**

Université de Liege, Institut d'Astrophysique, Cointe-Ougrée, Belgique  
Observatoire Royale de Belgique, Bruxelles, Belgique

**8. BRASIL**

Observatorio Nacional, Rio de Janeiro, Brasil  
Astronomical and Geophysical Institute, University of Sao Paulo, Sao Paulo, Brasil

**9. CANADA**

Quebec Astronomical Observatory, Quebec, Canada  
Herzberg Institute of Astrophysics, Victoria, B.C., Canada

**10. CHILE**

Cerro Tololo Inter-American Observatory, La Serena, Chile  
Universidad de Chile, Departamento de Astronomia, Santiago, Chile

**11. CHINA**

Yunnan Observatory, Kunming, Yunnan, China  
Purple Mountain Observatory, Nanking, China  
Beijing Astronomical Observatory, Beijing, China

**12. REPUBLIC OF CHINA (TAIWAN)**

National Central Univ. Observatory, Chung-Li, Taiwan, Republic of China

**13. COLOMBIA**

National Astronomical Observatory, Bogota, Colombia

**14. CZECH REPUBLIC**

Charles University Astronomical Institute, Prague, Czech Republic  
Astronomical Institute of the University, Brno, Czech Republic  
Astronomical Institute of the Czech Academy of Sciences, Ondrjeov, Czech Republic

**15. DENMARK**

Copenhagen University Observatory, Copenhagen, Denmark

**16. EGYPT**

Helwan Observatory, Helwan, Cairo, Egypt

**17. ESTONIA**

Institute of Astrophysics and Atmospheric Physics, Toravere, Estonia

**18. FINLAND**

University of Helsinki Observatory, Helsinki, Finland

## 19. FRANCE

Bibliothèque interuniversitaire, Section des sciences, Montpellier, France  
Centre de documentation du C.N.R.S., Paris, France  
Bordeaux University Observatory, Floirac, Bordeaux, France  
Observatoire de Meudon, D.A.M.A.P., Bibliothèque, Meudon, France  
Institut d'Astrophysique, Paris, France  
Observatoire Midi Pyrenées, Toulouse, France

## 20. GERMANY

European Southern Observatory, Garching b. München, Germany  
Institut für Astronomie und Astrophysik, Technische Universität Berlin, Berlin, Germany  
Central Institute for Earth Physics, Potsdam, Germany  
Astronomische Institut, Universität Bonn, Bonn, Germany  
Astronomisches Rechen-Institut, Heidelberg, Germany  
Schauinsland Observatory, Fraunhofer Institute, Freiburg, Germany  
Reimis Observatory, Erlangen-Nuremberg University, Bamberg, Germany  
Zentralinstitut für Astrophysik, Potsdam, Germany  
Institut für Theoretische Physik und Sternwarte der Universität Kiel, Kiel, Germany  
Tübingen University Astronomical Observatory, Tübingen, Germany

## 21. GREECE

Pentele Astronomical Station, National Observatory of Athens, Athens, Greece  
University of Thessaloniki Observatory, Department of Astronomy, University of Thessaloniki, Thessaloniki, Greece

## 22. HUNGARY

Heliophysical Observatory, Debrecen, Hungary  
Konkoly Observatory, Budapest, Hungary  
Astronomical Observatory, Baja, Hungary

## 23. INDIA

Japal-Rangapur Observatory, Osmania University, Hyderabad, India

## 24. ITALIA

Osservatorio Astronomico, Pino Torinese, Torino, Italia  
Astrophysical Observatory, Catania, Italia  
Astronomical Observatory, Padova, Italia  
Osservatorio Astronomico di Brera, Milano, Italia  
Osservatorio Astronomico, Trieste, Italia  
Vatican Observatory, Castel Gandolfo, Vatican City State, Italy  
Arcetri Astrophysical Observatory, Florence, Italy



## 25. JAPAN

Kagoshima Space Center, Institute of Space and Aeronautical Science, University of Tokyo, Tokyo, Japan

International Latitude Observatory, Mizusawa-shi, Iwate-ken, Japan

Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan

## 26. KOREA

National Astronomical Observatory, Seoul, Korea

## 27. LATVIA

Latvijas Universitate, Astronomiska Observatorija, Riga, Latvija

## 28. LITHUANIA

Astronomijos Observatorija, Moletai, Lithuania

Astronomical Observatory, Vilnius, Lithuania

Institute of Theoretical Physics and Astronomy, Vilnius, Lithuania

## 29. MEXICO

National Astronomical Observatory, Institute of Astronomy, Mexico, Mexico

## 30. NETHERLAND

Kapteyn Astronomical Laboratory, Groningen, The Netherland

Physics and Astronomy Library, University of Utrecht, Utrecht, The Netherland

## 31. NORWAY

Oslo Solar Observatory, Institute of Theoretical Astrophysics, University of Oslo, Oslo, Norway

## 32. PHILIPPINES

Solar Division, Manila Observatory, Manila, Philippines

## 33. POLAND

Astronomical Latitude Observatory, Borowiec, Poland

Poznan University Astronomical Observatory, Poznan, Poland

Academie Polonaise des Sciences, Cracow, Poland

Piwnice Astronomical Observatory, Nicolaus Copernicus University Torun, Poland

Astronomical Institute of the Wroclaw University, Wroclaw, Polska

Polish Academy of Sciences, N. Copernicus Astronomical Center Warszawa, Poland

Warsaw University Observatory, Warsaw, Poland

Jagellonian University Astronomical Observatory, Cracow, Poland

### 34. ROMANIA

Institutul Astronomic, Bucharest, Romania  
Astronomical Observatory, Cluj-Napoca, Romania  
Observatorul Timisoara, Timisoara, Romania

### 35. RUSSIA

Irkutsk Astronomical Observatory, Irkutsk State University, Irkutsk, Russia  
Institut nauchnoj informatsii, Akademii nauk, Moskwa, Russia  
Astronomical Observatory, Rostov University, Rostov on Don, Russia  
Kazan State University, Department of Astronomy, Kazan, Tatarstan, Russia  
The Library, Academy of Sciences of the Russia, St.Petersburg Russia  
Kislovodsk Astronomical Station, Kislovodsk, Russia  
Euro-Asian Astronomical Society, Sternberg Astronomical Institute, Moscow, Russia

### 36. SLOVAKIA

Astronomical institute, Slovak Academy of Sciences Tatranska Lomnica, Slovakia

### 37. SOUTH AFRICA

South African Astronomical Observatory, South Africa

### 38. SPAIN

Faculty of Physics Observatory, Barcelona University, Barcelona, Spain

### 39. SWEDEN

Astronomical Observatory, Stockholm University, Saltsjobaden, Sweden  
Uppsala University Astronomical Observatory, Uppsala, Sweden  
The Library of the Royal Swedish Academy of Sciences, Stockholm, Sweden  
Göteborgs universitetsbibliotek, Göteborg, Sweden

### 40. SWITZERLAND

University of Lausanne Observatory, Chavannes des Bois, Switzerland  
Observatoire de Geneve, Sauverny, Geneve, Suisse  
Astrophysical Observatory, Arosa, Switzerland

### 41. TURKEY

Ankara University Observatory, Ankara, Turkey  
Istanbul University Observatory, Istanbul, Turkey

#### 42. UKRAINA

Kharkov University Astronomical Observatory, Kharkov, Ukraina  
 Main Astronomical Observatory, Golosiiv, Kyiv, Ukraina  
 The Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraina  
 Astronomical Observatory, Odessa, Ukraina  
 Nikolaev Astronomical Observatory, Nikolaev, Ukraina

#### 43. UNITED KINGDOM

Armagh Observatory, Armagh, Northern Ireland, United Kingdom  
 Oxford University Observatory, Oxford, England  
 St. Andrews University Observatory, St. Andrews, Scotland, United Kingdom  
 Royal Observatory, Edinburgh, Scotland, United Kingdom  
 University College of London, London, England

#### 44. USA

U.S. Naval Observatory, Washington, D.C., USA  
 International Latitude Observatory, NOS, National Geodetic Survey Ukiah, California, USA  
 International Latitude Observatory, NOS, National Geodetic Survey, Gaithersburg, Maryland, USA  
 The Library of Congress, Washington, D.C., USA  
 Kitt Peak National Latitude Observatory, Tucson, Arizona, USA  
 Smithsonian Astrophysical Observatory, Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA  
 Sacramento Peak Observatory, Sunspot, New Mexico, USA  
 University of Alabama Observatory, Alabama, USA  
 Northwestern University, Science-Engr Library, Evanston, Illinois, USA

#### 45. YUGOSLAVIA

Institut za fiziku, Zemun  
 Narodna biblioteka, Beograd  
 Narodna opservatorija, Beograd  
 Srpska akademija nauka i umetnosti, Beograd  
 Univerzitet u Novom Sadu, Novi sad  
 Univerzitet u Nišu, Niš  
 Univerzitetska biblioteka "Svetozar Marković", Beograd  
 Bibliografski institut, Beograd  
 Univerzitetska biblioteka, Podgorica  
 Crnogorska akademija nauka i umjetnosti, Podgorica  
 Univerzitet "Svetozar Marković", Kragujevac  
 Biblioteka Matice Srpske, Novi Sad

## 16. BELGRADE ASTRONOMICAL OBSERVATORY STAFF AND ORGANISATION

### WINNERS OF THE ASTRONOMICAL OBSERVATORY PRIZE FOR 1995

1. Prize for Science  
NENAD JANKOVIĆ
2. Prize for Science for youngs  
LUKA POPOVIĆ
3. Prize for the contribution to the development of the Astronomical Observatory (for fellows of Astronomical Observatory)  
IŠTVAN VINCE
4. Prize for the contribution to the development of the Astronomical Observatory  
DEPARTMENT OF ASTRONOMY OF THE FACULTY OF MATHEMATICS IN  
BELGRADE

### DIRECTOR

Milan S. Dimitrijević

### DIRECTORIAL BOARD

Zoran Knežević - President

Olga Atanacković - Vukmanović - Vice President

Stevan Djeniže

Gojko Djurašević

Svetislav Krstić

Svetozar Miljević

Slobodan Ninković

Slobodan Žegarac

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Milan S. Dimitrijević - President

Slobodan Ninković - Vice President

Olga Atanacković - Vukmanović

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Stevan Djeniže  
Aleksandar Djordjević  
Gojko Djurašević  
Davorka Grubor  
Slobodan Jankov  
Zoran Knežević  
Aleksandar Kubičela  
Anatolij A. Mihajlov  
Georgije Popović  
Sofija Sadžakov  
Božidar Stanić  
Desanka Šulić  
Ištvan Vince

#### SCIENTIFIC COUNCIL OF ASTRONOMICAL OBSERVATORY

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Gojko Djurašević - Vice President  
Olga Atanacković - Vukmanović  
Milan S. Dimitrijević  
Slobodan Jankov  
Zoran Knežević  
Georgije Popović  
Luka Č. Popović  
Sofija Sadžakov  
Ištvan Vince

#### STAFF AND ORGANISATION OF ASTRONOMICAL OBSERVATORY IN 1995

Dr Milan S. Dimitrijević (Director)

#### SCIENTIFIC DIVISION

#### DEPARTMENT FOR ASTROPHYSICS

Dr Ištvan Vince (Head of department)  
Dr Olga Atanacković - Vukmanović  
Dr Milan S. Dimitrijević  
Dr Gojko Djurašević  
Dr Slobodan Jankov  
Dr Luka Č. Popović  
M.Sc. Darko Jevremović  
M.Sc. Vladimir Kršljanin  
M.Sc. Ljiljana Skuljan  
Sanja Erkapic

## DEPARTMENT FOR DYNAMICAL ASTRONOMY

Dr Georgije Popović (Head of department)  
Dr Zoran Knežević  
Dr Slobodan Ninković  
M.Sc. Dragomir Olević  
M.Sc. Rade Pavlović  
M.Sc. Vojislava Protić - Benišek  
M.Sc. Danilo Zulević  
Bora Jovanović

## DEPARTMENT FOR ASTROMETRY

M.Sc. Ivan Pakvor (Head of Department)  
Dr Sofija Sadžakov retired since 16.IX.1995  
M.Sc. Zorica Cvetković  
M.Sc. Miodrag Dačić  
Djuro Božičković  
Veselka Trajkovska

## COMPUTING CENTER

Vera Sekulović (Head of Computing Center)

## LIBRARY

Dojna Petrović (Head of Library)  
Vesna Mijatović

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Snežana Marković - Kršljanin

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Stajka Novaković (telephonist)

Milan Rogić (security (up to 23.XII.1995))

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Jelena Pešić

Momčilo Trandafilović

ACCOUNT - KEEPING SERVICE

Slavica Pavić (Head of Service)

Gordana Đakić (bookkeeper – accountant)

TECHNICAL SERVICE

Čedomir Šaponja (Head of The Service)

Vladimir Savković (electrotechnician)

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Ph.D. Sofija Sadžakov	ssadzakov@aob.aob.bg.ac.yu
Vera Sekulović	vera@aob.aob.bg.ac.yu
M.Sc Ljiljana Skuljan	ljskuljan@aob.aob.bg.ac.yu
Veselka Trajkovska	vtrajkovska@aob.aob.bg.ac.yu
Ph.D. Istvan Vince	ivince@aob.aob.bg.ac.yu
M.Sc Danilo Zulević	dzulevic@aob.aob.bg.ac.yu





Fig. 1. Nenad Janković, the winner of the Astronomical Observatory's prize for scientific work.



Fig. 2. Dr. Luka Č. Popović, the winner of the Astronomical Observatory's prize for scientific work of young astronomer.

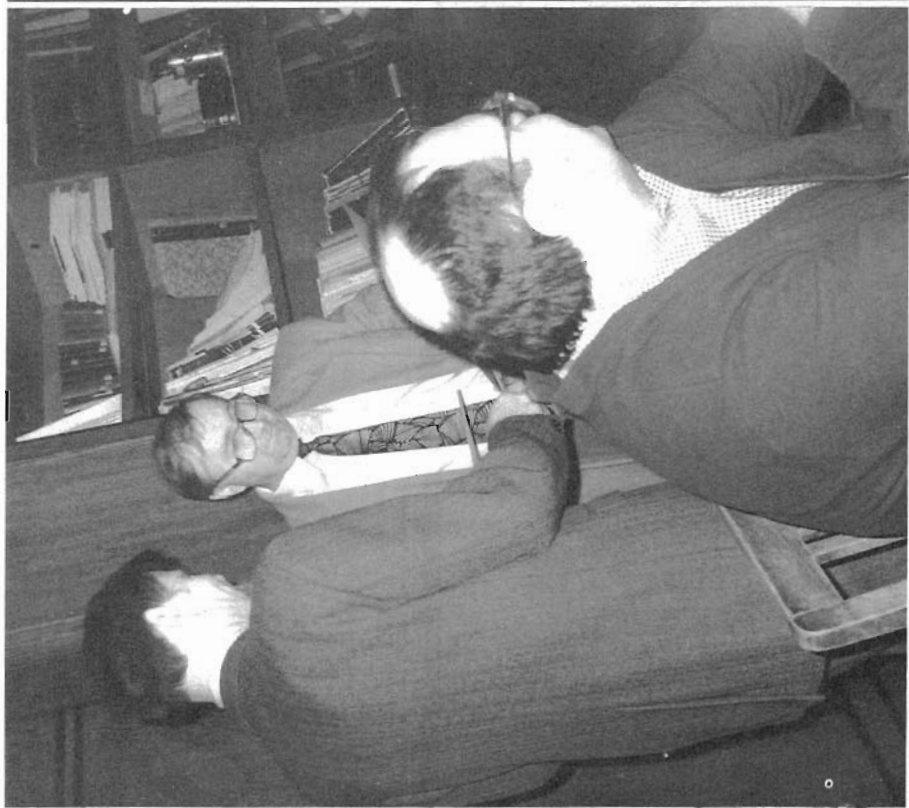


Fig. 3. Dr. Vince Istvan, the winner of the prize for contribution to the development of Astronomical Observatory.

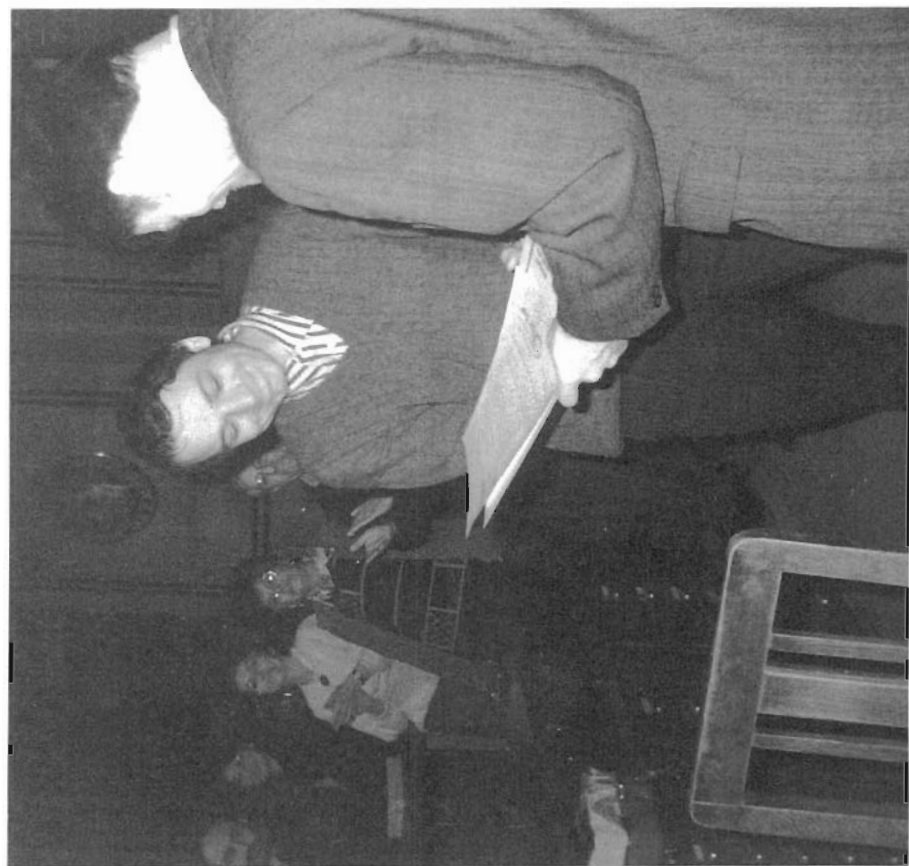


Fig. 4. Dr. Trajko Angelov receiving in the name of the Department of Astronomy the prize for the contribution to the development of Astronomical Observatory.

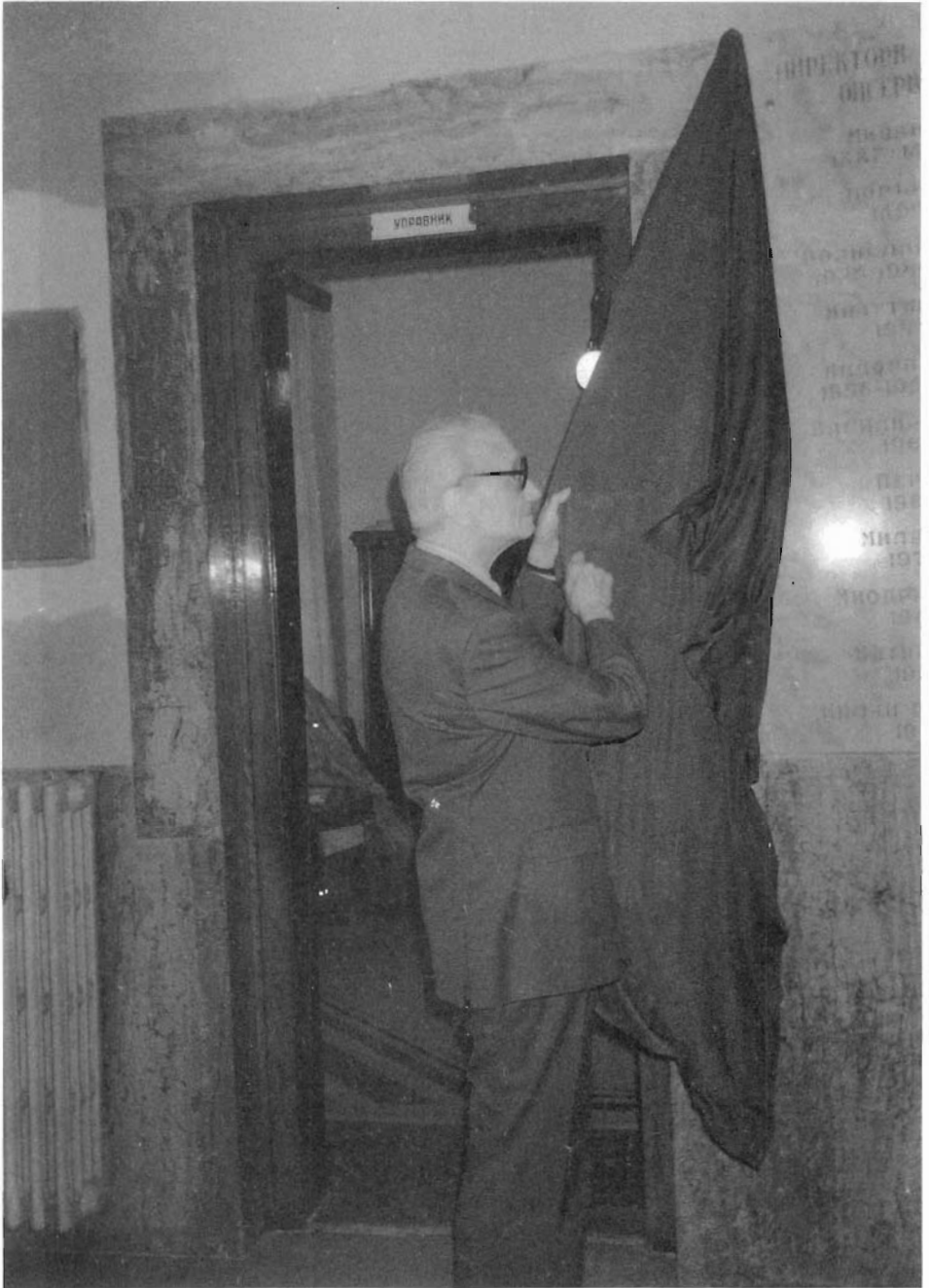


Fig. 5. Nenad Janković, the winner of the prize of Astronomical Observatory for scientific work, unveiling the plaque with names of all directors of Astronomical Observatory.



Fig. 6. The staff of Astronomical Observatory: Georgije Popović, Slavica Pavić, Gordana Dakić, Rade Pavlović, Ivan Pakvor, Olga Atanacković - Vukmanović, Mileva Blagojević, Jelena Pešić, Zoran Knežević, Istvan Vince, Slobodan Ninković, Milan Dimitrijević, Zorica Cvetković, Silviana Nikolić, Dojna Petrović, Dragomir Olević, Slobodan Jankov, Veselka Trajkovska.



Fig. 7. Participants of the First Yugoslav conference on spectral line shapes: (standing) S. Samurović, L. Popović, M. Terzić, B. Vujčić, P. Grujić, Lj. Dobrosavljević, S. Jovičević, S. Djurović, J. Peach, N. Konjević, V. Milosavljević, M. Platiša, M. Čuk, M. Dimitrijević, J. Purić, J. Labat, A. P. Voitovich and M. Pavlov; (front row) B. Blagojević, G. Djurašević, H. G. Escobar, M. Ivković, L. Ya. Min'ko, Lj. Ignjatović, Z. Mijatović and R. Kobilarov.



Fig. 8. The main building of the Astronomical Observatory.

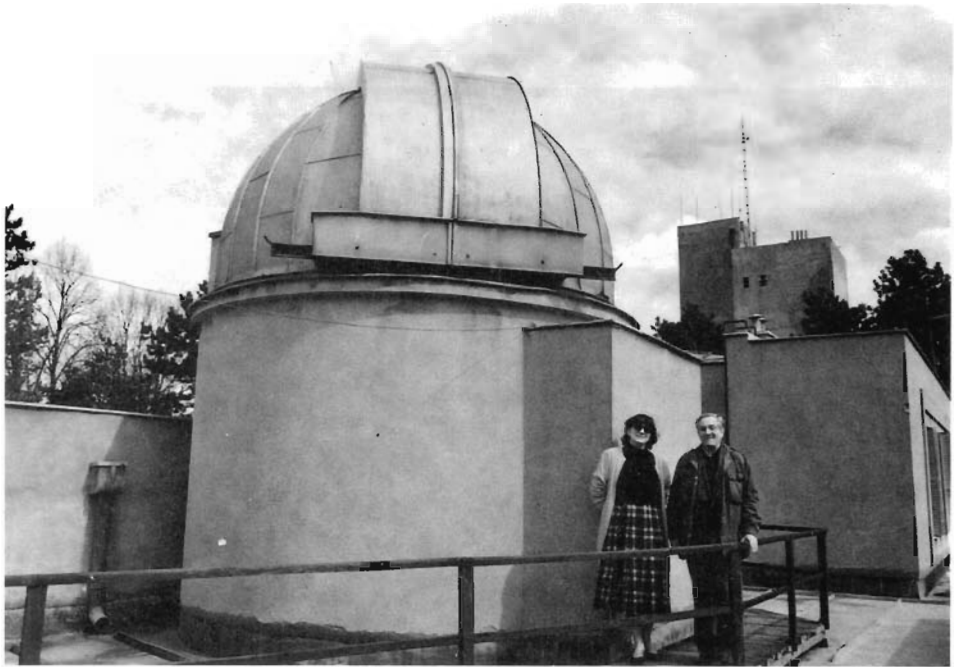


Fig. 9. The dom of the photovisual refractor "Ascania" on the roof of the Main building.



Fig. 10. Photovisual refractor "Ascania" 135/1000 and 125/1000 mm.



Fig. 11. The building of the Big Refractor Zeiss, 650/10550 mm.



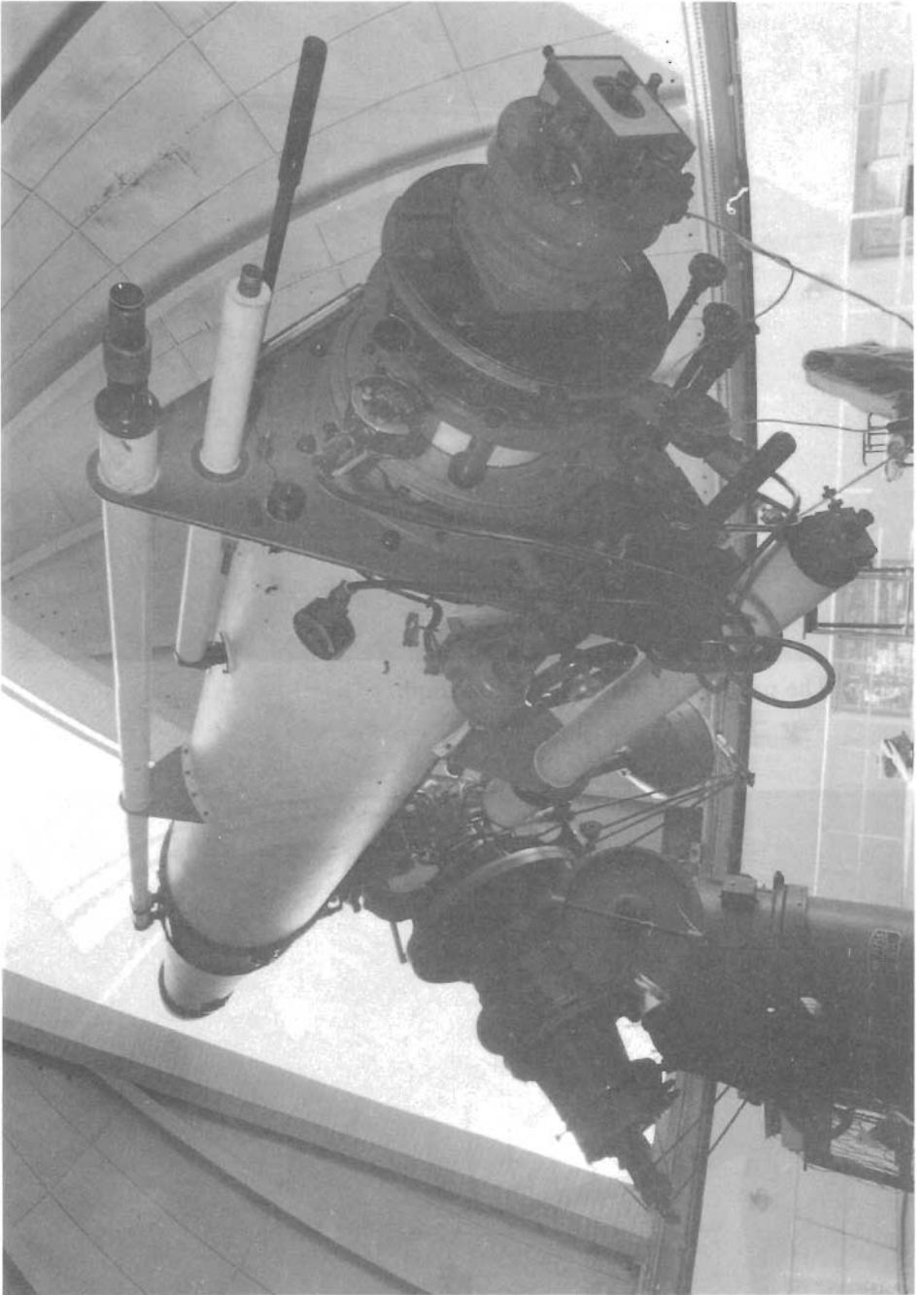


Fig. 12. The Big Refractor – equatorial "Zeiss" 650/10055 mm.



Fig. 13. The pavilion of the solar spectrograph.

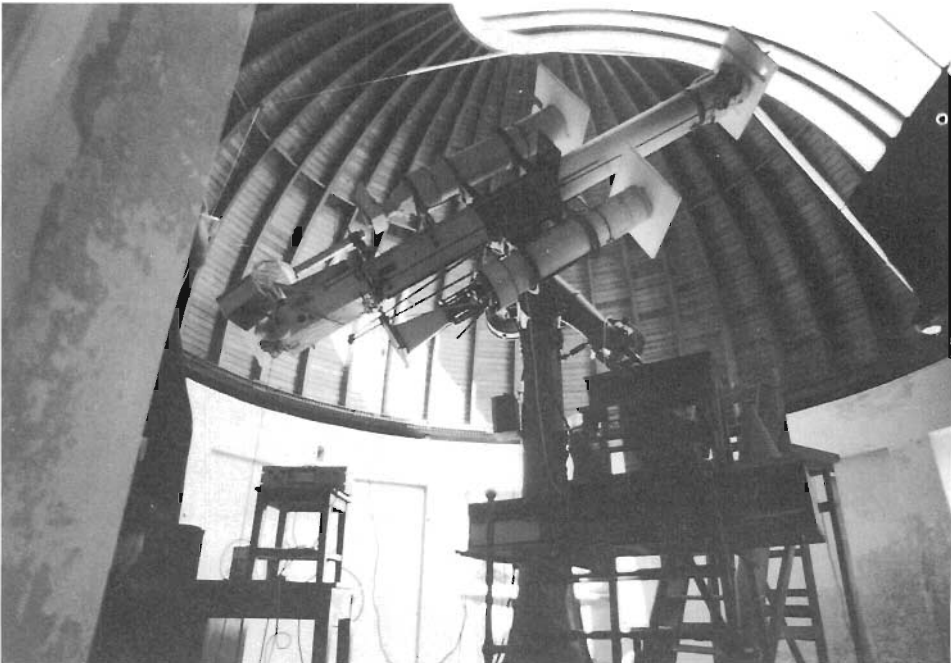


Fig. 14. The solar spectrograph (Littrow),  $9000\text{mm}/10^{\circ}$ , attached to equatorial "Zeiss" 200/3020 mm with two astrocameras "Tessar" and "Petzval" 160/800 mm.



Fig. 15. The pavilion of the Large Meridian Circle "Ascania".

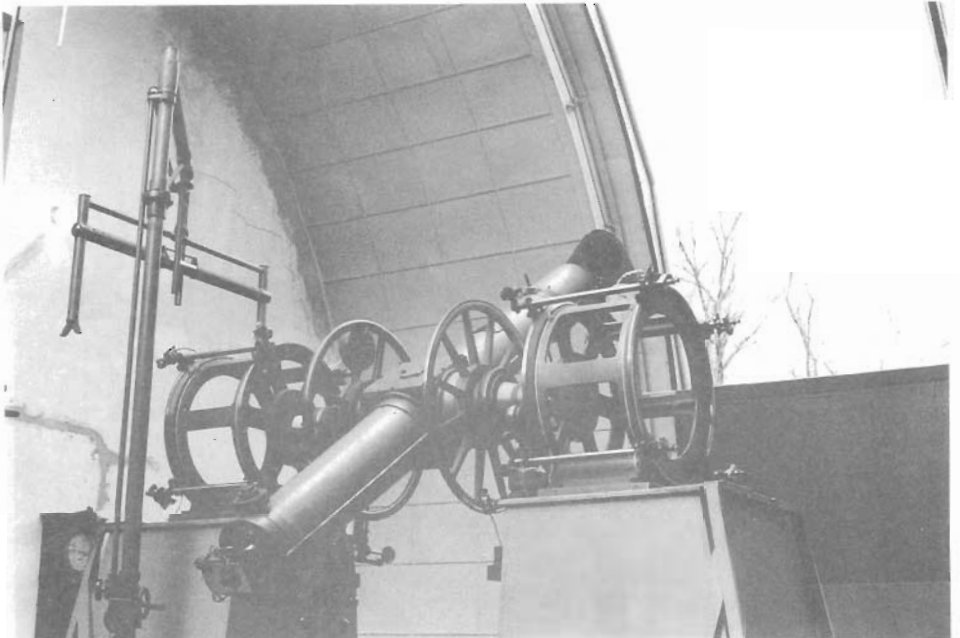


Fig. 16. The Large Meridian Circle "Ascania" 190/2578 mm.



Fig. 17. The pavilion of the Large Transit Instrument. Visible parts of vacuum tubes connective meridian marks with the instrument.

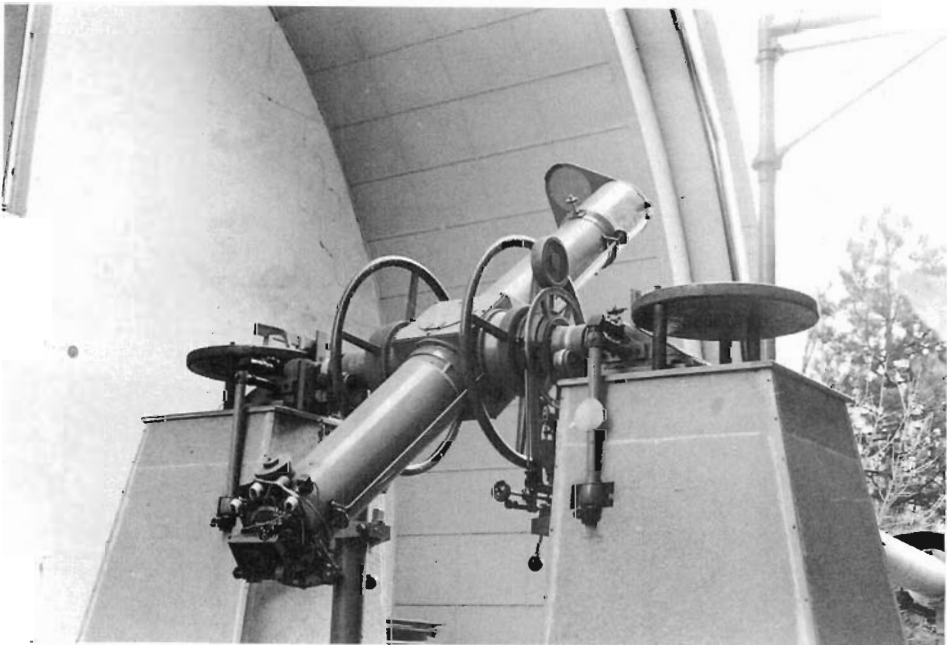


Fig. 18. The Large Transit Instrument "Ascania" 190/2578 mm with the system of the vacuum meridian marks.



Fig. 19. The pavilion of the Large Vertical Circle.

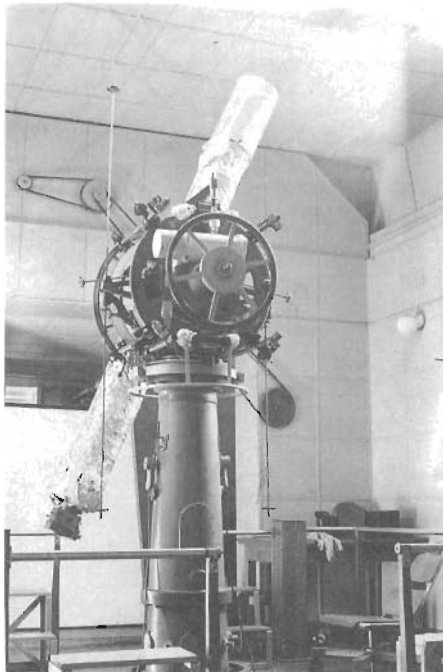


Fig. 20.  
The Large Vertical Circle  
"Ascania" 190/2578 mm.



Fig. 21. The pavilion of the Astrograph.



Fig. 22. The Astrogeodetic pavilion.



Fig. 24. The Zenith telescope "Ascania" 110/1287 mm.

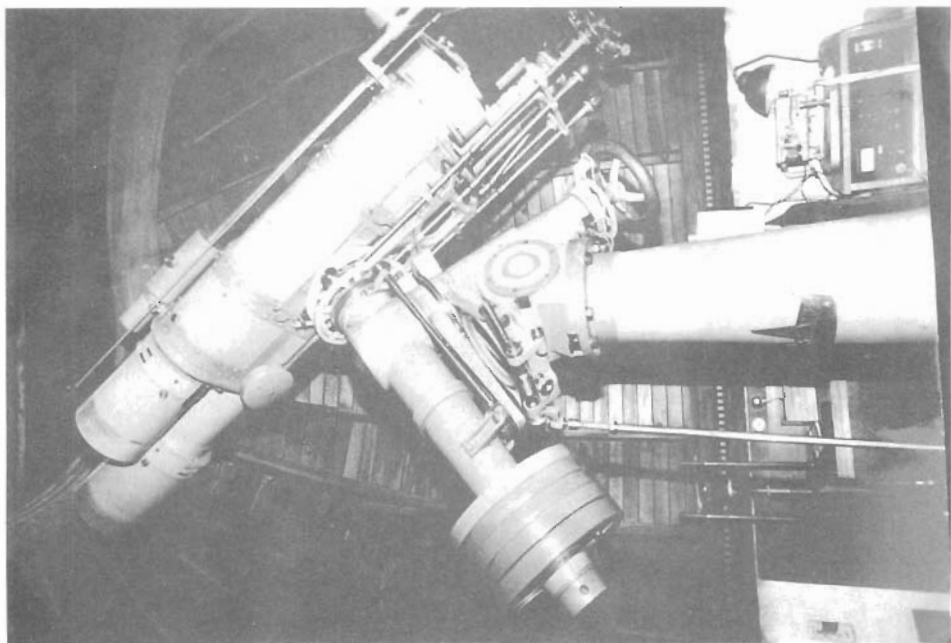


Fig. 23. The Astrograph "Zeiss" 160/800 mm.

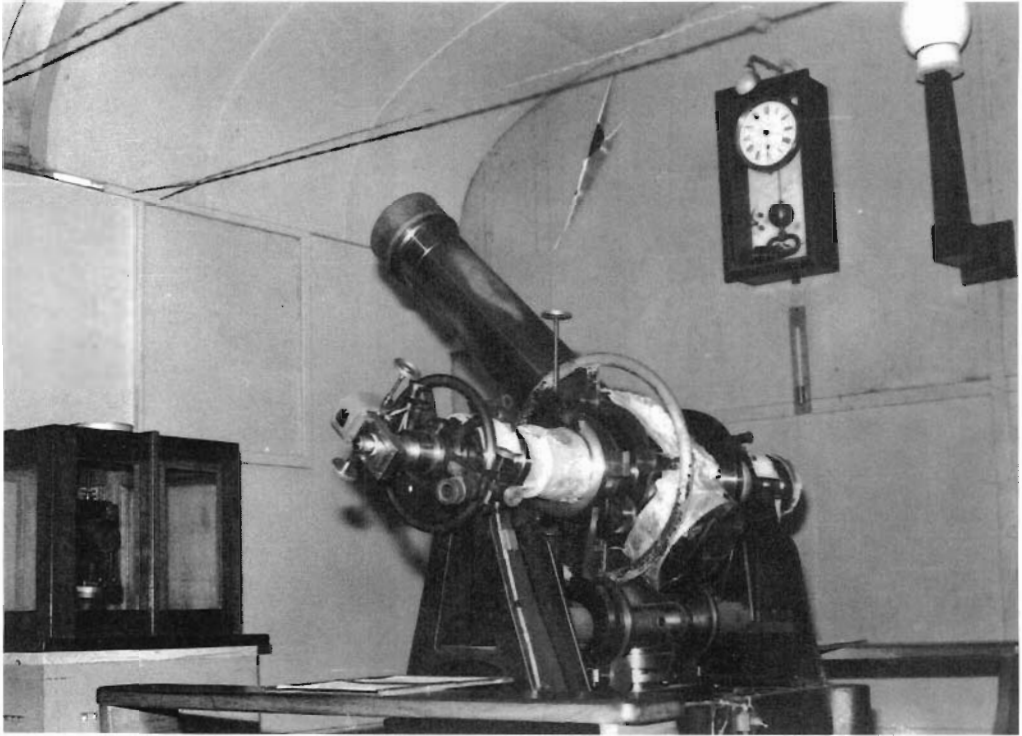


Fig. 25. The Small Transit instrument "Bamberg" 100/1000 mm.



Fig. 26. The training pavilion.



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S. Dimitrijević. - Београд : Astronomical Observatory, 1996  
(Peč : Komex). - 86 str. : ilustr. ; 24 cm. - (Публикације  
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016:[520/524

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б) Астрономска опсерваторија (Београд) - Радови - 1995

- Библиографије с) Astronomija - Bibliografije

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