Современные телескопы с электронно-оптическими приемниками изображений (ПЗС камерами) в состоянии наблюдать такую малую планету, как 8141 Николаев, почти в любой части ее орбиты.

В ближайшие годы малая планета Николаев будет в оппозиции в феврале 2002 г., в июне 2003 г., в сентябре 2004 г.

Измерения видимой яркости малой планеты позволяют сделать вывод, что ее поперечник около 6 км. Отсюда следует, что площадь поверхности космического Николаева составляет около 100 кв. км.

KARL KNORRE – FIRST ASTRONOMER OF THE NIKOLAEV OBSERVATORY (TO 200th ANNIVERSARY FROM BIRTHDAY)

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Karl Friedrich Knorre was born April 9, 1801 in family of the professor of astronomy of Dorpat university Ernst Knorre. During education in the Dorpat university he got acquaintance with the future director of Pulkovo observatory Wilhelm Struve. According passion of K. Knorre for astronomy W. Struwe recommended him to the director position of planned naval observatory in Nikolaev. From the foundation of Nikolaev naval and later astronomical observatory in 1821 K. Knorre was a first director. He made star position observations with the meridian circle, worked as a teacher of astronomy for sea navigators, compiled the fifth page of star map of the Berlin Academy of sciences and headed by all hydrographic determinations on the sea of Asov and Black sea. After 50 years K. Knorre retired 1871 from the Directorship of the Nikolaev observatory.

КАРЛ КНОРРЕ –ПЕРШИЙ АСТРОНОМ МИКОЛАЇВСЬКОЇ ОБСЕРВАТОРІЇ (ДО 200-річчя З ДНЯ НАРОДЖЕННЯ), Г.М.Петров, Г.І.Пінігін – Карл Фрідріх Кнорре народився 9 квітня 1801 року в родині професора астрономії Дерптского університету Эрнста Кнорре. Під час навчання в Дерптському (нині Тартуському) університеті він познайомився з майбутнім директором Пулковської обсерваторії В.Я.Струве. З огляду на інтерес К.Кнорре до астрономії, В.Я.Струве рекомендував його кандидатуру адміралу А.Грейгу на посаду директора майбутньої морської обсерваторії в м. Миколаєві. Після заснування в 1821 році Миколаївської морської, а пізніше астрономічної обсерваторії К.Кнорре був її першим директором. Він визначав положення зірок на меридіанному крузі, викладав астрономію для морських штурманів, склав 5-й лист зоряної карти Берлінської академії наук, керував усіма гідрографічними роботами на Азовському і Чорному морях. У 1871 році К.Кнорре вийшов у відставку.

КАРЛ КНОРРЕ –ПЕРВЫЙ АСТРОНОМ НИКОЛАЕВСКОЙ ОБСЕРВАТОРИИ (К 200-летию СО ДНЯ РОЖДЕНИЯ), Г.М.Петров, Г.И.Пинигин – Карл Фридрих Кнорре родился 9 апреля 1801 года в семье профессора астрономии Дерптского университета Эрнста Кнорре. Во время обучения в Дерптском (ныне Тартусском) университете он познакомился с будущим директором Пулковской обсерватории В.Я.Струве. Учитывая интерес К.Кнорре к астрономии, В.Я.Струве рекомендовал его кандидатуру адмиралу А.Грейгу на пост директора будущей морской обсерватории в г. Николаеве. После основания в 1821 году Николаевской морской,

а позже астрономической обсерватории К.Кнорре был ее первым директором. Он определял положения звезд на меридианном круге, преподавал астрономию для морских штурманов, составил 5-й лист звездной карты Берлинской академии наук, руководил всеми гидрографическими работами на Азовском и Черном морях. В 1871 году К.Кнорре вышел в отставку.

At the end of 18th century Russian empire was finally fixed on the lands of north Black Sea region and began their colonization. In 1778 the city of Kherson began to be built up on Dnieper , and in 1778 - the city of Nikolaev on Southern Bug.

In Nikolaev the shipyard and Admiralty were built. There was also staff of the Black Sea fleet with the commander here.

In the further development of city and military fleet admiral Alexey Greig, former main commander of the Black Sea fleet and ports, and also general - governor of Nikolaev and Sevastopol since 1816 till 1833 has played an outstanding role. Greig has received excellent education on naval business and other sciences, including astronomy, in England. He understood perfectly, that the development of the seas is impossible without astronomical maintenance. Therefore he has decided to build Astronomical observatory in Nikolaev , where the naval officers would have an opportunity to work with astronomical and naval instruments.

The observatory should also provide the ships with an exact time verified by naval chronometers and sextants, field-glasses and visual pipes. And astronomer should read also lectures for the navigation company.

In 1819 admiral Greig began searches to the post of the naval astronomer, which could head the observatory. He has addressed to Wilhelm Struve, the astronomer of Derpt observatory , who in that time had already managed to gain popularity by his topographical works on shooting the territory of Lifland (present Estonia). And Struve has recommended Greig to take Karl Knorre to the post of the astronomer. He helped Struve in that time in his geodetical works, had managed to show his features, and has deserved a high estimation

Karl Knorre was born in the noble family on April 9, 1801 in Derpt, where his father was the professor of mathematics of Derpt university (founded in 1804) and first observator of the university astronomical observatory.

Already in early childhood Karl has shown excellent abilities in mathematics, which developed thanks to the cares of his father. Already during his father's life Knorre, in the age of 8 years, trained other children on mathematics, receiving for this small compensation.

With 10 years of age Knorre has lost his father and his mother was left without means of livelihood with three sons. Her native brother Karl Zenf, the professor of theology of the same Derpt university has taken her to live with him.

In 1812 Karl has entered Derpt grammar school, and in 1817 by his uncle's wish - theological faculty of the Derpt university. In this period Karl observed celestial bodies at night and soon, attracted by exact sciences, he has left theology and began to study mathematics and astronomy assiduously. His

diligence and success were noticed by Wilhelm Struve, who allowed Karl to observe with the unique in that time telescope of the observatory - 5 foot achromatic pipe of Trauton. The observatory had also transfer the tool of Dollond, but in that time it remained packed in a box.

Meeting obstacles on his way, young Knorre did not burst in despair, did not wait for favorable conditions and did his best under the given conditions.

All this caused respect with Struve and when he has found out about searches of the astronomer for the naval observatory in Nikolaev, he recommended to this post K.Knorre with pure conscience , in spite of the fact that Knorre had no official astronomical education.

By the order of the naval minister I.M. Traverse from July 7, 1920, Karl Friedrich Knorre was nominated to the post of the naval astronomer in Nikolaev. At Knorre's request and from the sanction of Greig Karl has lingered over in Derpt to study the experience of the Derpt astronomers, select books for the observatory in Nikolaev and deepen his knowledge of Russian. In the late autumn, after Struve had returned from foreign business trip, they have discussed the future device and equipment of Nikolaev observatory.

In February, 1821 the young naval astronomer (not of complete 20 years) has arrived in Nikolaev and has begun at once the observations on admiral Greig's personal astronomical observatory, the ornament of which was 2 foot meridian circle of Libger, the installation of which admiral was going to charge to Karl.

From observations on the recapitulation circle K.Knorre specifies the geographical latitude of the admiral's observatory. He devotes a lot of time to the calculations of the positions of stars a Ursae Minoris and δ Ursae Minoris for every day since 1823 till 1830, observes a comet and sends results of the observations to Astronomische Nachrichten.

The results of numerous observations of star coverings by Moon obtained by Knorre, Greig and officer K. Dal were published in Astronomische Nachrichten, Bd.1, N9; Bd4, N96, Bd.7, N148.

Knorre also teaches at navigator school, the students of which were much more senior than he. Under his management during next 30 years the works on ploting on a map the coasts of the Black, Azov and Marmora Seas, and also the discharging rivers were executed. He has put the beginning to such measurements personally in 1822, has given the instruction on realization of measurements, and has also specified the formulas for processing the executed measurements and control of results of calculations.

In expedition works the sextants on supports and theodolites were used;

transfer instrument of Ertel was used for definition of latitude on passages of stars through first vertical; for the covering of stars by Moon - telescopes on supports, and for topographical works - plane-tables; there were 3 or 5 chronometers. The geographical longitude of the point was defined by transportation of chronometers, the amendments of which were defined from observations of the appropriate heights of the Sun, or by Gauss method. Less often the amendment of a chronometer was deduced from star passages through the meridian. Whenever possible, the World time was defined from coverings of stars by Moon .

Only in the period from 1822 to 1824 more than 20 points of the Black sea coast received astronomical coordinates.

Most capable officers who had a desire to be engaged in work on the description of coast, were transfered on a service closer to Nikolaev, and became Knorre's students. The names of the brothers E. and M. Makgonari, Apostoli, Zarydny and others are closely connected with Nikolaev observatory. Only for the description of the Azov and Black sea coasts made by E. Makgonari in 1825 - 1836, the longitude and latitude of 332 points were determined; 74 of them - by the astronomical methods.

Under admiral Greig's insisting Knorre works with the task of the best structure of the underwater part of the ships of various types.

In 1823 K.Knorre asks to send him abroad with the purpose of acquaintance with the work of the best European astronomical observatories and workshops on manufacture of astronomical instruments and devices. In the same time he works a lot on admiral Greig's observatory and at the end of 1824 manages to execute all works on introduction of two-foot meridian circle of this observatory.

In February, 1825 Knorre goes in foreign business trip. He visits the native land, where together with Struve investigates the limb of the meridian circle just bought by Struve for Derpt observatory. He discusses with W.Struve the route of his trip.

Knorre has visited many observatories and workshops on manufacture of astronomical instruments in Germany, France and England. He has ordered some equipment for the Nikolaev observatory and has got acquainted with many outstanding astronomers of that time. Especially strong impression was made on him by the meeting in Munich with great Kennigsberg astronomer Bessel, who had in that time an idea of creation of a photographic map of the star sky. Under Bessel's suggestion Knorre has taken part in calculations for the Regiomontanae tables, which were published in 1830, and has promised to take part in work on creation a sky map.

In the autumn of 1827 Knorre has returned to Nikolaev and on September 27 has made the first observation on new observatory.

The construction of the observatory still was not finished and Knorre takes an active part in these finishing works. He didn't take part in the building earlier. He was especially dissatisfied by a covering of a roof of the observatory, which has not sustained a terrible downpour of July 26, 1826. As the result of it the ceiling of a building has got very wet, the plaster has partly fallen off, and

parquet floor should be repaired. Knorre found the necessary leaden plates in Odessa. He has brought them and soldered to one another so well, that they didn't not miss water within more than 100 years, in spite of the fact that the officers were making observations of heavenly stars on the roof.

Having returned from the foreign trip, Knorre settles in the observatory and continues to teach in the navigater school. He devotes a lot of time to creation of 5-th sheet of a star sky map of the Berlin Academy of sciences ($\alpha=3^h50^m$-5^h04^m, $\delta=15°$). Thus the positions of many stars were re-checked by him by the observations on the meridian circle of Ertel, which was performed by Knorre in 1832. Knorre's map, in comparison with many others, was made without any essential discrepancies. This allowed the amateur of astronomy from Dresden Mr. Henke to discover with the help of this map a minor planet Astrea, on December 20, 1845 and on October 30, 1847 the astronomer Hind with the help of Knorre's map has discovered a minor planet Flora. This excellent success of Knorre's map has brought him wide popularity and promoted burst of activity for searches of new planets, which have completely justified themselves and have excellently confirmed a prediction of Bessel.

Since then and till our time many thousands of minor planets are already discovered, but the grateful mankind will remember always those who has made first steps. It is necessary to rank as their number the Nikolaev astronomer K.Knorre.

With the sanction of the admiral Greig Knorre has taken several telescopes from his observatory and by the inventory of 1831 the equipment of the new observatory consisted of:

1. Three-foot meridian circle of Ertel with mercury horizon of the cylindrical form with a diameter of 1,75 ft and mercury of weight 24 kg. The mercury horizon moved on rails and allowed to receive the reflected images of stars within the limits of +14+44 declinations.
2. Three-foot transfer instrument of Utzshneider and Fraunhofer.
3. Telescope with objective 4 " and focal length of 5 ft of the same foremen.
4. Comet-searcher on paralactic support with micrometer of Shteinhel.
5. Equatory of Ertel.
6. Vertical recapitulation circle of Ertel with a diameter 18 ".
7. English quadrant by radius 18 ".
8. Wall-clock of Barrods and the clock of Kessels, desktop clock of Gardy, about 50 desktop and pocket chronometers.

Except for astronomical instruments there were also geodetic in the observatory. Thus, for example, in 1831 the equipment was replenished with three theodolites of Ertel, two levels, instruments for the distances measurement etc.

The Observatory also was engaged in check and distribution of visual pipes purchased regularly abroad for the ships and beacons.

From all previousely read one can see that Nikolaev observatory was equipped with instruments well enough. Such equipment enabled to work effectively not only for needs of fleet, but also for the fundamental science.

Unfortunately, admiral Greig was transferred in 1833 to Baltic and Knorre has lost the support of the man, who understood all importance of the works of the observatory for the science. The new heads demanded that the works on the observatory are necessary only for the fleet and Knorre had no assistants any more.

And the amount of works for fleet was enormous itself. Daily work with the students of a navigator school, constant management of astronomical and geodetic works along the coast of the Azov, Black and Marmora seas, regular definitions of time by the astronomical observations for the preservation of a time scale, daily works on a conclusion of the amendments and daily courses of several tens of chronometers acting from the ships and sent by him after certification required a huge concentration of forces and did not leave anything for the scientific research. One should add to this also works on registration of the necessary reporting and conducting of the facilities.

With such amount of work only the one who uses properly every minute could cope. Our hero was such a man. He coped excellent with all this and found also time for the scientific activity. The given list of his works testifies to this fact.

The list of scientific works of K. Knorre.

1. Der Ort des Polarsterns für jeden Tag der Jahre1823-30, berechnet aus Bessel Tafeln. Nikolajew, 1824.

2. Der Ort des Sterns δ Ursae Minoris für jeden Tag der Jahre1823-30. Nikolajew, 1824.

3. Sternbedeckungen beobachtet in Jahre 1824 in Nikolajew mitgetheilt von Herrn Professor Knorre.- Astron.Nachrich.,B.4,№96, 1825.

4. Schreiben des Herrn Professor Knorre Director der Sternwarte in Nikolajew an den Herausgeber, Band 7, №148, 1825.

5. Verbesserung den Sextant mit der Zulage der Liddelle.-Astron. Nachrichten.,B.7,№264, 1825.

6. Разрешение треугольников. - Николаев, 1832.

7. Наставления для сыскания широты места, погрешности инструмента и состояния часов по методу Гаусса. - Николаев, 1832.

8. Blatt der Berliner Akademischen Sternkarten nebst Sternverzeichnis. Berlin, 1832.

9. О небесных картах, составление которых предпринято Берлинскою Академиею наук. - Николаев, 1836.

10. Изменение способа Бесселя для исправления Лунных расстояний.- Николаев, 1837.

11. Исследование о прогрессике. -Николаев, 1838.

12. О средней температуре Николаева, Херсона и Севастополя. Новороссийский календарь на 1840-й год. - Одесса.

13. Мнение о труде профессора Савичева "Применение практической астрономии к географическому определению мест". - Санкт-Петербург, 1845.

14. Лекции по практической астрономии, читанные в Черноморской штурманской роте. Вып.1, Интерполяция, Николаев, 1855.

15. Teil Himmels zwischen IV-h und V-h der Graden Aufsteigung und 15 südlicher und 15 nordlicher Abweichung für 1800 auf Veranlassung der Koniglichen Akademie der Wissenschaften in Berlin.- In Buch "Akademishen Sternkarten" Berlin, 1859.

16. Teil Himmels.... für den Gurtel des Himmels von 15 südlicher bis 15 nordlecher Abweichungen nach Bessels Vorschlag von verschidenen Astronomen. - Akademie der Wissenschaften zu Berlin, 1859.

17. Определение коллимации зеркала в магнитном теодолите.- Николаев, 1869.

For the work "Opinion on Work of Professor Savichev" Application of Practical Astronomy to Geographical Definition of Places " Knorre was awarded a golden medal of St.-Petersburg Academy of sciences in 1846. In the same year he was elected the Valid member of Russian geographical community.

Except for the listed works, Knorre has some articles about magnetic and meteorological measurements etc. He sent annually the astronomical part and small articles about expected celestial events to the issued in Odessa and Tbilisi calendars without any compensation for it. Once a week he sends by the telegraph the exact time to Kherson. He installed a sunclock in Odessa and so on.

This is how Knorre lived and worked during decades. Far from Motherland, in thinly populated steppe, far from the scientific world, he was deprived an opportunity to discuss a difficult task not only with the collegues-astronomers, but even with the educated enough people. All by himself, he could expect only for the ingenuity and for a small number of the special books, which were at his order. That is what Knorre wrote about the conditions, in which he had to work: "... Thus during 30 years the observatory drag out a miserable existance. It could not brag of constant assistance to a science. The reason to that was not so much in lack of tools, for with available (though rather poor) instruments it would be possible to make more under other conditions, but rather that the astronomer is left completely without any help, because he has to be a secretary and a mechanician himself ... Usually even the most insignificant repairing is previously brought in for the year forward, and only then it can be either unmade at all, or, if is executed, after several years of expectation, but so badly, that it should better remain as it was. "

Such attitude of the naval heads to observatory was shared by many outstanding seamen of that time. That is what the future hero of the Crimean war and defence of Sevastopol, admiral P. S. Nakhimov writes to his comrade: "The observatory in Nikolaev is good, but it should not be here. The astronomer is an educated person, engaged in rather high subjects, for example: makes the star catalogue for the Berlin observatory. Doesn't it sound loud - and what of that? Whereas the worse observatory in Sevastopol (where all case of the officers is situated) with this astronomer would bring a lot of benefit to poor Black-sea people. "

After the Crimean war the conditions for the observatory work were even more worsened and to some extent its status became uncertain. The Russian

empire has lost the war and under the Parisian peace treaty of 1826 the Black Sea fleet was abolished, it was authorized to have only a small number of the easy military ships on the sea. And all naval structures on the coast of the Black sea were destroyed. The Admiralty in Nikolaev was liquidated also. The observatory was left, but its financing has worsened.

Such situation remained during many years. The observatory kept thanks to high authority in the scientific world of its director, a member - correspondent of the Petersburg Academy of sciences, Karl Friedrich Knorre. But he has became already old. In 1870 he has celebrated 50th anniversary of the service for the boon of the Russian fleet and science and has submitted the application on a resignation, which he has received in August, 1871, having retired in a rank of the privy councillor and moved to Berlin.

Nikolaev astronomical observatory arranged the international scientific conference devoted to the 180 anniversary of NAO and 200th birthday of Karl Friedrich Knorre in 2001.

ATANASIJE STOJKOVICH AND VYACHESLAV Zh. ZHARDECKY. SERBIAN ASTRONOMER IN UKRAINE AND UKRAINIAN IN SERBIA

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For the study of scientific links of Serbia and Ukraina, of significant interest are Kharkov University professor, Serb - Atanasije Stojkoviж (Ruma, Serbia 20.09.1773 - Sankt Peterburg 25.08.1832), writer, physicist and astronomer who gave an important contribution to meteoritics, and Vyacheslav Zhigmundovich (or Sigizmundovich) Zhardeckij (Odessa, Ukraina 16.04.1896 - New York, USA, 1962), who was in Belgrade 1920-1943. The aim of this contribution is to present life and activities of those two scientists, of importance for the history of astronomy and the science as a whole in Ukraina and Serbia.

АНАСТАС СТОЙКОВИЧ И В'ЯЧЕСЛАВ З. ЖАРДЕЦЬКИЙ. СЕРБСЬКИЙ АСТРОНОМ В УКРАЇНІ І УКРАЇНСЬКИЙ В СЕРБІЇ, М.Дімітрієвич - У статті коротко представлені біографії двох учених, важливих для історії астрономії в Україні і Сербії. Це професор Харківського університету, серб Анастас Стойкович – письменник, фізик і астроном, зробивший істотний внесок у метеоритику (народився в Rume, Сербія 20.09.1773, вмер у Санкт-Петербурзі 25.08.1832), і В'ячеслав Зигмундович (або Сигизмундович) Жардецкий,що у 1920-1943 роках працював у Белграді (народився на Україні в Одесі 16.04.1896 р., вмер у Нью-Йорку, США в 1962 році.)

АНАСТАС СТОЙКОВИЧ И ВЯЧЕСЛАВ З. ЖАРДЕЦКИЙ. СЕРБСКИЙ АСТРОНОМ В УКРАИНЕ И УКРАИНСКИЙ В СЕРБИИ, М.Димитриевич - В статье кратко представлены биографии двух ученых, важных для истории астрономии в Украине и Сербии. Это профессор Харьковского университета, серб Анастас Стойкович – писатель физик и астроном, внесший существенный вклад в метеоритику (родился в Rume, Сербия 20.09.1773, умер в Санкт-Петербурге 25.08.1832), и Вячеслав