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The 6th Gamow Summer School: Astronomy and Beyond: Astrophysics, Cosmology, Radioastronomy, Astrobiology

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The 6th Gamow Summer School: Astronomy and Beyond: Astrophysics, Cosmology, Radioastronomy, Astrobiology

As is traditional, the 6th Gamow Summer School took place at the I.I. Mechnikov Odessa National University recreation centre, Chernomorka, on 1–6 August 2006. The main topics of the Summer School programme were also traditionally related to notable dates in the history of science.

The year 2006 is the 135th anniversary of the Observatory of Odessa University (previously named Novorossiysk Imperial University); it is also the 90th anniversary of the creation of the general theory of relativity by Albert Einstein. Furthermore, 2006 marks the 90th anniversary of the birth of one of the most outstanding astrophysicists, Joseph S. Shklovsky, who was the author of the famous book *Universe, Life, Intellect*, a corresponding member of the Soviet Academy of Sciences and very highly regarded by many generations of astronomers.

One field of astronomy traditionally given attention to at the Summer School is radio astronomy, which this year celebrates the 75th anniversary of its foundation and the discovery by K. Jansky of cosmic radio waves. Both are important problems which will be considered in the International Geophysical Year to be held in 2007–2008.

The main topics covered during the special and optional sessions of the Summer School were as follows.

The Summer School was opened with a lecture dedicated to the 135th anniversary of the Odessa Astronomical Observatory given by Dr V.A. Pozigun (Department of Astronomy, Odessa National University).

The memorial programme of the Summer School traditionally includes lectures and presentations dedicated to G.A. Gamow. This year the audience enjoyed fragments of G. Gamow's unique lectures and his last interview kindly given to the Summer School by the American Institute of Physics (Washington). All that material is still waiting to be used further in university classes and translated into Russian.

The audience was highly impressed by the lecture 'The universe of Albert Einstein' given by Professor A.D. Chernin (Sternberg Astronomical Institute, Moscow). The problems considered in the lecture were vividly discussed immediately and later during a special session.

Astronomical and Astrophysical Transactions ISSN 1055-6796 print/ISSN 1476-3540 online © 2006 Taylor & Francis http://www.tandf.co.uk/journals DOI: 10.1080/10556790601179826 In his lecture 'I.S. Shklovsky and modern radio astronomy', Dr G.M. Rudnitskij described the life of Ioseph Samoilovich Shklovsky, a bright researcher who made many splendid discoveries and was the author af a large number of fundamental scientific monographs and popular books. The lectures that he used to give were of the highest level. However, in the Gamow Summer School of 2006, as well as in the previous Summer Schools, a considerable number of lectures that proved to be of a great interest to the audience were also given. Among these, we should mention the lecture 'Observations of SS433 with the space-based γ -ray observatory INTEGRAL' by A.M. Cherepashchuk (Director of the Sternberg Astronomical Institute, Lomonosov Moscow State University).

The programme on the second day of the Summer School was dedicated to astrophysics and radio astronomy. Professor G.S. Bisnovaty-Kogan (Institute of Space Research, Russian Academy of Sciences), an unfailing lecturer at all the Gamow Summer Schools, this time presented to the audience the lecture 'Binary rotating pulsars, the highest-precision laboratory of fundamental physics'. Professor A.A. Minakov (Institute of Radio Astronomy, National Academy of Sciences of Ukraine, Kharkov) gave a lecture entitled 'On the analogies between the problems of statistical analysis of the microlensing effect in astrophysics and electron scattering by atomic nuclei in quantum mechanics', which was followed by the lecture 'Evolution of the Galaxy' by Professor S.M. Andrievsky (Department of Astronomy, Odessa National University).

The third working day of the Summer School was 'full of astrophysics and cosmology'. The interesting lecture 'Turbulence in accretion discs' by Professor V.M. Chechetkin (Keldysh Institute of Applied Mathematics, Russian Academy of Sciences) provoked an animated discussion. Professor I.L. Andronov (Department of Astronomy, Odessa National University) gave a lecture to the audience entitled 'Cataclysmic processes in the world of stars'.

The cosmological session was opened by two lectures: 'Multidimensional cosmology, fundamental constants and the space project Solar System Exploration' by Professor V.N. Mel'nikov (Institute for Physical–Technical and Radiotechnical Measurements (VNI-IFTRI, Moscow) and 'Multidimensional cosmology' by Professor A.I. Zhuk (Department of Theoretical Physics, Odessa National University).

The closing-day programme was dedicated to solar activity, solar-terrestrial coupling and astrobiology. It opened with the lecture by A.A. Soloviev (Pulkovo Observatory, Russian Academy of Sciences) entitled 'Seismology of the local structure on the Sun', which contained the most recent data on solar activity investigations.

'Life in the system of solar-terrestrial interlinks' was the title of an interesting lecture by L.E. Kosenko (Institute of Botany, National Academy of Sciences of Ukraine, Kiev). M.I. Ryabov gave a talk entitled 'The Sun and the Moon as the main factors of space weather affecting the Earth's atmosphere and biosphere'.

The School was co-organized by I.I. Mechnikov Odessa National University (the Astronomical Observatory and the Department of Astronomy), the Odessa Observatory (Institute of Radio Astronomy, National Academy of Sciences of Ukraine) and the Odessa Astronomical Society with the help of the Ukrainian Astronomical Association and the Eurasian Astronomical Society. On the whole, the programme for the Summer School included four memorial talks, 13 thematic lectures and 22 oral and poster presentations to optional sessions on astrophysics, cosmology, radioastronomy and astrobiology. Discussions on the problems 'accretion discs in astrophysics' and 'Einstein's cosmology' were organized. More than 40 astronomers from Russia, Ukraine and Moldova participated in the conference.

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