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Zdenek Kopal's binary star legacy international conference

I. Pustynnik ^a
^a Tartu Observatory, Estonia

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ZDENEK KOPAL'S BINARY STAR LEGACY INTERNATIONAL CONFERENCE

(Received 10 June 2004)

A memorial conference dedicated to the ninetieth birthday anniversary of the world-renowned Czech astronomer, Professor Zdenek Kopal was held in his home town Litomysl between 31 March and 3 April 2004.

Around 100 participants, specialists in close binary research, representing 21 countries all over the globe gathered in a splendid Renaissance castle dating from the second half of the sixteenth century (since 1999 on the heritage list of UNESCO) where, during four working days, five scientific sessions (including a memorial session) took place. 80 reports, invited discourses, oral presentations and posters were submitted to the Scientific Organizing Committee headed by Professor H. Drechsel (Germany). The Local Organizing Committee (the chairman Dr M. Zejda, Brno Observatory and Planetarium) undertook much preparatory work, carefully planned and successfully solved numerous logistical problems. A rich cultural programme included a sightseeing tour of the old town of Litomysl, a concert of chamber music by the Wallinger string quartet based on classical music composed by B. Smetana (also born in Litomysl) and A. Dvorak, and the performance of a humorous version of a court opera 'Coronide', staged in the amphitheatre of the Litomysl castle.

A well-balanced scientific programme covered almost the whole spectrum of research in the physics and evolution of close binaries. This can be seen from the titles of invited discourses presented during the conference: 'Generalized eclipsing binary models' (R.E. Wilson, USA), 'Atmospheric eclipses in WR+O binaries: from Kopal and Shapley to the present day' (A.M. Cherepashchuk, Russia), 'Evolutionary calculations of low-mass systems' (P. Eggleton, UK), 'The evolution of massive close binaries' (B. de Loore, Belgium), 'Triple and multiple systems' (P. Mayer, Germany), 'Period variations of close binaries' (H. Rovithis-Livaniou, Greece), 'New techniques and limitations of light curve analysis' (P. Hadrava, Czech Republic), 'Intrinsic variables as components of close binaries' (N. Samus, Russia), 'Doppler tomography' (T. Marsh, UK), 'Resolving the Algol paradox and Kopal's classification of close binaries with evolutionary implications' (I. Pustynnik, Estonia), 'Basic functions of the light curve analysis of eclipsing binaries in the frequency domain' (O. Demircan, Turkey), 'Contact binaries: a study of proximity effects and gravity darkening based on Kopal's Fourier method' (P. Niarchos, Greece) and 'Numerical modeling of mass transfer in close binaries' (D.M. Bisikalo, Russia). Thus, the topics of discussion included almost all domains of the rich scientific legacy left by the late Zdenek Kopal. It consisted of gravitational and radiative interaction effects in close binaries and multiple systems (tidal distortion of stellar figures, reflection effect, apsidal motion, period changes, gravitational darkening, atmospheric eclipses, etc), synthesis of the light

curves and techniques of determination of orbital and physical parameters of the component stars, observational manifestations and physical mechanisms behind the intrinsic variability, treatment of circumstellar and circumbinary matter, problems of classification, statistics and evolution of various types of binaries and multiple stellar systems.

Close associates, colleagues A. Yamasaki (Japan), E. Budding (New Zealand), M. Solc (Czech Republic) and a former student of Z. Kopal, namely O. Demircan (Turkey), helped the audience to revive the most important benchmarks in the life of Zdenek Kopal: graduation at Prague University (1937), leading position in the Czech Astronomical Society, first solar expedition to Japan (1936), Denis Fellowship by A. Eddington in Cambridge (1938), World War II years spent with H. Shapley at Harvard (working on eclipsing variable stars) and at Massachusetts Institute of Technology. In 1952, Kopal accepted the chair of astronomy at the University of Manchester sharing the time between teaching duties at many universities and the work of a consultant in the lunar programme of the National Aeronautics and Space Administration.

It is widely known that the late Professor Kopal during his work at the University of Manchester and in the capacity of the editor-in-chief of the international journal *Astrophysics and Space Science* devoted much of his time and mental energy to fostering the research of close binary systems in developing countries, notably in the Balkan region and Asia. As the reward for this far-sighted policy a new generation of young and talented enthusiastic astronomers coming from Greece, former Yugoslavia, Turkey and Iran pursues observational and theoretical research of close binary systems and a number of these reported fresh results of their investigations during the conference in Litomyšl.

Two daughters of Zdenek Kopal, Alina and Zdenka, attended the conference in Litomyšl (both are residents of the USA). The home town and relatives donated considerable sums to commemorate the late Professor Z. Kopal, an honorable citizen of Litomyšl. An original monument at the place where he was born in 1914 (unfortunately, the building had been demolished) was erected and officially opened on the closing evening of the conference. The monument represents a Roche binary model made of wickers, that is special synthetic fibres (the monument was created by Federico Diaz and Marian Karel). The monument rests upon the pavement and beneath it, at the position of the so-called critical Lagrange points, illuminated stroboscopic lines run in two perpendicular directions. In it a passer-by can read, in Czech and English, brief biographical data and the major scientific accomplishments of the famous astronomer.

The volume of proceedings based on the contributions reported during the conference ‘Zdenek Kopal’s Binary Star Legacy’ should appear by the end of 2004 in Kluwer Publishers (the editors of the volume are H. Drechsel and M. Zejda).

I. PUSTYLNİK
Tartu Observatory, Estonia