

## Workshop report: The XI international symposium on problems of redundancy in information and control systems, July 2-6 2007, Saint-Petersburg, Russia

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**Plenary lecture given by Hisashi Kobayashi.**

The XI international symposium on problems of redundancy in information and control systems was held on 2-6 July 2007 on board of the comfortable cruise ship "Saint-Petersburg" (Saint-Petersburg, Russia).

The history of the symposium on redundancy problems in information systems is long-standing and dates from 1964 when the first symposium was held, initiated by Professor N.A. Zheleznov. The topics discussed on this symposium covered the widest area of problems connected with analysis and synthesis of the systems with structural, logical or functional redundancy. Thousands of professionals in the field of information theory, error-correcting coding, communication systems and networks, automated control systems, computer engineering and mathematical modeling participated in 10 symposiums held within 1964-1989. The symposium was considered as a complex and interbranch one, aimed at mutual ideas sharing in the different directions of informatics.

Among the conventional symposium sections outstood the section of the information theory and coding for the high quality of reports presented there. The majority of well-known Russian specialists and scientists took part in the work of this section from year to year. Alongside, starting from the first symposium, the section of computer engineering was traditionally held.

The X symposium on redundancy problems in information systems was held in 1989. Since then it has been interrupted by the well-known events in Russian history. Saint-Petersburg State University of Aerospace Instrumentation (SUAI) with the U.S.S.R. Academy of Sciences was the organizer of all the 10 symposiums on the redundancy problem. Now SUAI proposes to regenerate the traditional symposium taking into account changed scientific, technical and political situation.

The technical co-sponsors of the symposium are the IEEE Russia (Northwest) Section and the IEEE Information Theory Society.

About 120 participants from 8 countries took part in the work of the newly arranged Symposium of 2007, 55 reports were presented that cover the following scientific areas: Information theory, Coding theory, Communication systems, Cryptography, Theory



**Workshop participants.**

of combinations, Software systems, Computational systems and networks. The Coding theory session traditionally attracted the majority of reports (15).

Two plenary sessions with invited lecturers were held. They are "35 Years of Progress in Digital Magnetic Recording" by Hisashi Kobayashi, Princeton University, USA, and "35 years Development of Multithreshold Algorithms" by Valery Zolotarev, Space Research Institute of Russian Academy of Science, Moscow, Russia.

In addition, a special session was held dedicated to the 70th anniversary of Victor Zyablov (Institute for Information Transmission Problems of Russian Academy of Science, Moscow, Russia).

Hisashi Kobayashi (Princeton University, USA) was awarded the first prize as the best reporter, and Thomas Berson (Anagram Labs, Palo Alto CA, USA) was acknowledged as the best session chairman.

The Proceedings of the Symposium are available at <http://k36.org/redundancy2007/proceedings.php>

Although the scientific discussion has been the main part of the Symposium program, it has not been the only. The participants had also a good chance to visit Valaam, the largest and finest island of the lake Ladoga. The island hosts a functioning friary with its chronicle dating back to the X century, Spaso-Preobrazhensky Cathedral, the Saint Peter and Paul Church and several skits that preserve spiritual values and are magnificent monuments of Russian architecture. Another place of interest that participants could enjoy was the world famous Kizhi Museum, one of the largest out-door museums in Russia. The museum collections contain 83 pieces of the wooden architecture. The core of the collection is the outstanding sample of the wooden architecture – the architectural ensemble of the Kizhi Pogost of Our Savior built on Kizhi Island in the 18th – 19th centuries.

The forthcoming XII Symposium will be held in Saint-Petersburg in 2009.