

Preface

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Quark Matter Conference – the most prestigious conference on relativistic heavy-ion physics. In 2005, the conference was held in Budapest with more than 600 participants from all the continents. Six days full of presentations on plenary and parallel sessions. One day for students and Hungarian teachers. Two poster sessions with hundreds of posters presented. Some satellite topic conferences in the neighboring countries before and after the main conference. This conference was really an extraordinary event in the scientific life of heavy-ion community.

For the first time, the conference organizers created a new “Regional Advisory Committee”. The members of this Committee, representing the neighboring countries, were involved in some organizational duties with the aim to facilitate, especially for young people, taking all advantages from the participation in this important scientific event.

One of the new initiatives of the organizers was the creation of topical proceedings with the papers prepared on the basis of the selected posters presented during the conference. The selection was made by the members of Regional Advisory Committee. This special issue of *Nukleonika* is the conference proceedings containing the papers on two topics:

1. Nuclear Stopping Thermalisation and Collective Dynamics,
2. Hadron Correlations and Fluctuations.

A lot of new results on these topics have been obtained before the Budapest Conference. Many questions of “soft physics” appeared to be more difficult for quantitative understanding than the clear signals coming from “hard probes” like “jet quenching”. The famous “RHIC HBT puzzle” has found (too) many explanations making again the inconvenience, as different approaches were based on different and sometimes contradictory assumptions. The “blast wave” parameterization indicated a short duration time of particle emission process. The results from non-identical particle correlations pointed on the sequence of particle emission or different localization of their emission regions. The comparison of transverse momentum dependence of the emission radii for different colliding nuclei, showing surprising similarity, has created new puzzles to be solved in the future. One can continue the list of exciting results... This proceedings contains a lot of them.

Many thanks to the Conference Organizers: Péter Lévai, Tamás Csörgő and others, for their hard work and excellent organization of the Budapest Conference.