

Introduction

The Fifth International Symposium on Gravitational Physics was hosted by Nanchang University, Nanchang, China in July 2013. The symposium is fifth in a series that goes back to the first that was held in Guangzhou, China in 1987 (organizers – Michelson, Hu, Pizzella), followed by the second in Nathiagalli, Pakistan in 1993 (organizers – Qadir, Bokhari, Karim), third in Samarqand in 1999, Uzbekistan (organizers Ahmedov, Karim), fourth in Cochin, India in 2009 (organizers – Unnikrishnan, Karim). As with the first, the goal of these symposia has remained to provide a platform for individuals to present new schemes as well as progress reports on current experiments. These goals have been largely met. Apart from formal presentations the synergy created in informal interactions has resulted in collaborations among participants.

There remains a need for these symposia for many reasons. Firstly because the forum is focussed on experimental aspects of gravitational physics, secondly because of the loose structure of the symposium: free time is available for informal discussions where many new ideas are thrashed out. Some even end up promising! Thirdly it brings together a small group of like-minded physicists from far-flung corners of the world under one roof to exchange ideas on a subject they love. Free from time-constraints speakers take the time to explain in detail the topic under investigation as well as the means and method of measurement. At the end of the symposium there is a round-table session where questions that were lingering during the symposium are brought forth for further discussion and clarification.

The scope of this symposium has ranged far and wide. Among these are tests of the equivalence principle, measurements of G , search for new short range and intermediate range forces / modification of Newtonian gravity, quantum fields in curved space, space-based gravitation experiments, new tests of general relativity, experimental tests of fundamental aspects of relativity theories, experiments at the interface of gravity and quantum physics, tests of quantum gravity ideas, astrophysical and cosmological tests of gravity theories, dark matter and dark energy, gravito-magnetism and new generation of experiments, gravitation experiments with ultra-cold atoms and BEC, tests of gravity beyond the standard theory, and anomalous gravitational effects and their tests.

We concur that it was a joyous experience; at the end of the round-table discussion participants were eagerly awaiting the next symposium.

A symposium needs the help and goodwill of many individuals. Among those whose help we acknowledge is Professor Chen Ying Tian (Academy of Sciences, Beijing). We benefited from the work of the local organizing committee: Xiaohua Deng, Deputy President, and Nian-Hua Liu, Department of Physics, both of Nanchang University, Nanchang, China, and student volunteers who received us at the airport, manned the registration desk and helped us in myriad ways. We are grateful to each and every one of them.

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