

## 4 - 69 Report of the ICNMTA 2016 Conference and the Progress of Heavy Ion Microbeam Group

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The International Conference on Nuclear Microprobe Technology and Applications (ICNMTA) is a biannual event focused in the technology development and application of nuclear microprobe since the first edition in 1987 in Oxford. The ICNMTA2016 was the 15<sup>th</sup> edition and was held in the seminar hall of the Institute of Modern Physics. 90 participants from 26 countries were present in the conference, including 12 participants who were partly financially supported by International Atomic Energy Agency. The main topics of the ICNMTA2016 covered microprobe facilities and technology, microbeam modification in materials, proton beam writing, and microprobe application in biology, microelectronics and material science. The conference program was composed of 15 sessions with 3 plenary talks, 14 invited talks, 29 oral presentations and 64 poster presentations, in which three “Best Poster Award of ICNMTA2016” were selected by the international committee of senior scientists. The plenary talks given by Geoffrey W. Grime, Milko Jakšić Aiguo Li reviewed the ion beam analysis using MeV ion microbeam, single ion microprobe techniques and synchrotron X-ray microbeam technology respectively. Besides the technical tour of the HIRFL-CSR cooler storage ring of the Lanzhou Heavy Ion Accelerator National Laboratory, the conference participants had a relaxed culture visit to Bingling Temple of the ancient Silk Roads.

In 2016, the heavy ion microbeam facility was updated with optical grating system to improve the accuracy of sample positioning and beam current monitoring. Routine single ion hitting experiments were performed using 6.7 MeV/u Ni ions and 25 MeV/u Kr ions with thin polymer films, which were used to prepare single conical nanopores successfully. Multi-region of interest analysis of single event effects using heavy ion microbeam was developed and was used to obtain the sensitive area for single event effects in a system on chip system in collaboration with Xian Jiaotong University. Beam optics study have showed clear imperfect symmetry of the triplet quadrupole magnets of the HIRFL microbeam facility, which was further confirmed by the magnetic field measurement performed online at the microbeam terminal. The imperfect focusing magnets limits the resolution of the HIRFL microbeam and should be further analyzed with more precise measurements and corrections.



Conference Photos, 15<sup>th</sup> ICNMTA, 31 July – 5 August 2016, Lanzhou, China