

Preface

H. YAMAGUCHI⁽¹⁾, K. Y. CHAE⁽²⁾, S. CHERUBINI⁽³⁾

⁽¹⁾ *Center for Nuclear Study (CNS), University of Tokyo - Wako, Saitama, Japan*

⁽²⁾ *Department of Physics, Sungkyunkwan University - Suwon, Korea*

⁽³⁾ *Department of Physics and Astronomy, University of Catania, and INFN, Laboratori Nazionali del Sud - Catania, Italy*

The Second Sicily-East Asia (SEA) Workshop on Low Energy Nuclear Physics was held at Nishina Center of RIKEN in June 2016. This workshop is part of a series that aims to promote the collaboration of Laboratori Nazionali del Sud of Istituto Nazionale di Fisica Nucleare (INFN-LNS, Italy), the Center for Nuclear Study of The University of Tokyo (CNS, Japan), Sungkyunkwan University (SKKU, Korea), RIKEN (Japan) and other research Institutes. The first workshop of this series was held in July 2014 in Siracusa (Sicily, Italy) while the next one is already planned to be held in Suwon, Korea, in 2018.

In the last years an intense collaboration was established among our Institutions in the field of low energy nuclear physics. A very special emphasis was given to nuclear astrophysics and our collaboration was confirmed by conducting several experiments together. It is our intention to continue and strengthen this collaboration for long years to come. To this end, we think it is essential to discuss the subjects that will be the focus of our efforts in the next years in an informal but efficient way and to extend this discussion to interested Colleagues that were not involved in previous experiments and researches as well.

Thus we organized a very focused workshop of a few days to fulfill these goals. During the workshop we discussed indeed the key physics issue in low energy nuclear physics to be addressed in collaboration experiments, where the INFN-LNS, CNS and SKKU serve as core Institutes for now, with the aim to establish a broader collaboration for the future. We also discussed basic ideas on how to perform the proposed experiments and how to manage the needs in terms of equipments, manpower and financial resources that will be necessary to successfully perform them. There were significant contributions also from theorists, which were very helpful to set new perspectives and goals.

The research themes that have been discussed include nuclear processes relevant for astrophysics like quiescent and explosive nucleosynthesis, hot-CNO, primordial nucleosynthesis, AGB stars, fusion mechanisms, at and below the Coulomb barrier, with heavy ion beams and cluster structures in stable and unstable nuclei, reaction mechanisms and applications.

As we are writing this few lines other experiments in collaboration are being or have just been performed. We think this is the best result of the Workshop and we are already looking forward to meeting you in Suwon in 2018.