PREFACE

This volume of the proceedings collects contributions to the International workshop "Haron-Nuclear Physics 2011 (HNP11)" held from February 21 to 24, 2011 at APCTP Headquarter, Pohang in Republic of Korea. The series of the workshop started from a collaboration meeting between the hadron physics groups of the RCNP (Osaka University) and Pusan National University in 1999. In particular, the main philosophy of the HNP workshop is to encourage young scientists to understand new ideas and methods and carry out their own researches independently and more effectively. From the HNP06 helad at JAEA, Chinese physicists were also invited, so that the topics of the workshop spanned broader subjects in nuclear and haronic physics, including the fields such as nuclear structures, nuclear and hadronic reactions, and even heavy-quark physics. In 2007, many Chinese physicists took part in the workshop HNP07 that was held at Pusan National University, where more than 70 physicists gave oral presentations and had very stimulating discussions. The 6th workshop HNP08 was held at the Institute of Modern Physics, Lanzhou, China. The 7th workshop was held in Osaka during November 16-19, 2009. It is of particular importance to continue to provide opportunities to discuss common interests of hadronic and nuclear physicists in various fields.

The scope of the HNP workshop is to enhance the research activities in hadron and nuclear physics by exchanging ideas and by communicating between theories and experiments. Quantum chromodynamics (QCD) in low-energy regime has nonperturbative features, so it is of formidable difficulty to understand quark-gluon dynamics in low-energy regime and to describe the internal structure of the nucleon and properties of hadrons. In order to study hadrons, a great deal of efforts was put on developing theoretical methods and technologies: for example, lattice QCD, chiral perturbation theory or effective field theory, QCD sum rules, the chiral quark model, instanton vacuum, the Skyrme model, AdS/QCD or holographic QCD, etc. From the experimental side, new accelerator facilities and technologies have been constructed and elaborated, so that sophisticated measurements were available: tetraquarks such as $X(3872)$ and $Z(4430)$, excited nucleon states , strange content of the nucleon, the spin structure of the nucleon, the strange vector form factors, the generalized parton distribution, parity-violating processes, photoproduction of vector mesons, etc. Moreover, understanding multiquark states and properties of hadrons also paves way to investigate nuclei, nuclear matter, and matters under extreme conditions. The present workshop HNP11 aimed at providing an opportunity for theorists and experimentalists to exchange information and most recent results of hadron physics. A solid support for this workshop is very important to enhance the community of hadron physics; to boost collaborations between physicists from three countries; to encourage young postdocs and PhD students to be involved in researches in this field.

This volume of the proceedings reflect all discussions and new results and ideas during the HNP11. We hope that this proceedings will be of great use for young physicists who wish to start their research career to understand modern issues and methods in hadronic and nuclear physics. We also hope that the present volume will be an important reference for the researchers in this field.

The International workshop HNP11 was supported by the APCTP. We are very much grateful to staff members of the APCTP Headquarter, in particular, Ms. Ji-Hye Jung who showed meticulous skills in oragnizing this workshop. It would have been very difficult for this workshop to be held successfully without their help.

November 2011

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