

KEK-CPWS-ExDiP2012
The 3rd UTQuest workshop
“Superstring Cosmophysics”

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Phenomena Provoked by Axionic Moduli”

PURPOSE

In the last decade, there have been exciting developments on two sides of the string phenomenology. First, realistic low energy particle models that include the MSSM and GUTs after appropriate moduli parameter fixing were constructed by compactifications of various superstring theories, although the moduli stabilization problem remains yet to be solved and cosmological implications of the rich hidden sector in such models have not been investigated. Secondly, the KKLT scenario that can realise complete moduli stabilization by flux compactification of type IIB superstring theory and may lead to a realistic inflationary universe model was proposed. The flux compactification used in this scenario was argued to be plagued by the famous landscape problem claiming the degeneracy of vast

string vacua mimicking our universe. This argument, however, has been based on simple models that neglect low energy particle physics.

Thus, it is a good time now to merge these two approaches and look for compactifications of string theory that are fully satisfactory both from the low energy particle physics and from cosmology/the moduli problem. The main purpose of this workshop is to kick off this challenging program by overviewing the present status of the above two approaches to the string phenomenology and discussing promising models to be pursued.

PROSPECTIVE INVITED SPEAKERS (all are under negotiation)

Kiwoon Choi (KAIST)

Mirjam Cvetic (Pennsylvania)

Tatsuo Kobayashi (Kyoto U)

Liam McAllister (Cornell U)

Hans Peter Nilles (Bonn)

Fernando Quevedo (Cambridge)

Gary Shiu (Wisconsin U & Hong Kong U Sci. Tech.)

Yosuke Sumitomo (Hong Kong U Sci. Tech.)

SOC

Kunihiro Ioka (KEK), Akihiro Ishibashi (Kinki U), Masahiro Kawasaki (ICRR), Yoshihisa Kitazawa (KEK), Tatsuo Kobayashi (Kyoto U), Hideo Kodama (KEK) Chair, Kazunori Kohri (KEK), Shun'ya Mizoguchi (KEK), Shinji Mukohyama (IPMU), Kazunori Nakayama (U Tokyo), Masato Nozawa (KEK), Nobuyoshi Ohta (Kinki U), Masaru Shibata (YITP), Jiro Soda (Kyoto U), Fuminobu Takahashi (Tohoku U), Takahiro Tanaka (YITP), Shin'ya Tomizawa (KEK), Shinji Tsujikawa (Tokyo Sci. U), Jun'ichi Yokoyama (RESCEU), Hirotaka Yoshino (KEK)