

Algebraic geometry of twistor spaces

Nobuhiro Honda^{*}

honda@math.titech.ac.jp

By so called the Penrose correspondence, anti-self-dual conformal structures on a 4-manifold are in one-to-one correspondence with twistor spaces, which are complex 3-manifolds fibered over the 4-manifold by smooth rational curves. Structure of some compact twistor spaces may be investigated by analyzing pluri-anti-canonical systems of twistor spaces. In this talk, after briefly describing early examples obtained in the late of the last century, we will talk about development in these 10 years and current status of knowledge on the structure of twistor spaces.

^{*}Department of Mathematics, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8551, JAPAN