1056-51-696 **Kazuki Hasebe*** (`hasebe@dg.takuma-ct.ac.jp`), Takuma-cho, Koda 551, Mitoyo, Kagawa 769-1192. *Non-compact Hopf Maps, Quantum Hall Effect, and Twistor Theory.* Preliminary report.

We discuss close relations between quantum Hall effect and twistor theory. For this purpose, we first introduce a non-compact version of the Hopf maps based on the split-algebras. With use of the split-quaternionic Hopf map, we construct quantum Hall effect on a 4D ultra-hyperboloid. In the lowest Landau level, the symmetry is enhanced from SO(3, 2) to the SU(2, 2) conformal symmetry of the twistor. We point out that the quantum Hall effect naturally realizes the philosophy of twistor theory, such as incidence relation, more fundamental space than space-time. In particular, the emergence mechanism of fuzzy space-time will be discussed somehow in detail. (Received September 22, 2009)