1078-11-269 **Toru Komatsu*** (komatsu_toru@ma.noda.tus.ac.jp), 2641 Yamazaki, Noda-shi, Chiba-ken 278-8510. *On inverse Galois problem with certain prime conditions.* Preliminary report.

We solve the inverse Galois problem with certain prime splitting conditions. For a positive integer n let K be a number field with degree n such that every prime divisor of n remains prime in K. It is known that such a field K is non-Galois if n is divisible by 8. We study the Galois group of the Galois closure of such K. Let G be a subgroup of the nth symmetric group S_n containing a permutation of length n. When n is not greater than 8 and G is not the 8th cyclic group C_8, we prove that there exists a number field K with degree n such that every prime divisor of n remains prime in K and the Galois group of the Galois closure of K is isomorphic to G. We verify the existence of K by an explicit polynomial defining K. (Received December 11, 2011)