1123-11-353 **Shaofang Hong*** (sfhong@scu.edu.cn), Prof. Shaofang Hong, Mathematical College, Sichuan University, Chengdu, Sichuan 610064, Peoples Rep of China, and **Chunlin Wang** (wdychl@126.com), Dr. Chunlin Wang, Center for Combinatorics, Nankai University, Tianjin, Tianjin 300071, Peoples Rep of China. *On the integrality of hypergeometric series with parameters from quadratic fields.*

For the hypergeometric series with parameters from the rational fields, there is an effective criterion due to Christol to decide whether the hypergeometric series is N-integral or not. In this paper, we develop a systematic theory on the N-integrality of the hypergeometric series with parameters from quadratic fields. We first present a detailed p-adic analysis to set up a criterion of the p-adic integrality of the hypergeometric series with parameters from rational fields. Then we present two equivalent statements for the hypergeometric series with parameters from algebraic number fields to be N-integral. Finally, by using these results, introducing a new function that extends the Christol's function and developing a further p-adic analysis, we establish a criterion of the N-integrality of the hypergeometric series with parameters from the quadratic fields. In the process, there are two important ingredients. One is the uniform distribution result of roots of a quadratic congruence which is due to Duke, Friedlander and Iwaniec together with Toth. Another one is an upper bound on the number of solutions of polynomial congruences obtained by Stewart in 1991. (Received August 30, 2016)