1003-11-1290 **Sasa Radomirovic*** (`sasar@math.rutgers.edu`), Hill Center - Busch Campus, Rutgers, The State University of New Jersey, 110 Frelinghuysen Road, Piscataway, NJ 08854-8019. *On the Analogue of the Modular Group in Characteristic p.*

Classical automorphic functions are complex valued functions on the upper half plane left invariant under a subgroup of finite index of the modular group $PSL(2, \mathbb{Z})$.

Following Weil, we consider the analogue of this classical setting in characteristic p. In particular, we investigate the Hecke group and its fundamental domain, and we describe algorithms for constructing modular forms. As expected, our results have a striking resemblance to their classical cousins, examples being the index formula and the formula for the number of cusps. (Received October 04, 2004)