1075-11-137 **Nolan Wallach*** (nwallach@ucsd.edu) and **Roberto Miatello** (miatello@famaf.unc.edu.ar).
Meromorphic continuation of Kloosterman-Selberg Zeta functions associated to non-compact finite volume rank 1 symmetric spaces. Preliminary report.

Selberg introduced Derichlet series (now called Kloosterman-Selberg Zeta functions) associated with congruence subgroups of the modular group in order to use the Weil estimates on Kloosterman sums to prove his famous 3/16 Theorem. With a proper interpretation these "zeta functions" have generalizations to all non-compact, finite volume hyperbolic spaces (real, complex, quaternionic and octonian). These series are functions of a complex variable initially defined as a convergent series in a half plane. In this work we explain how to use our earlier work on analytic Poincaré series to prove a meromorphic continuation to the entire complex plane. This generalizes work of Cogdell, Piattetski-Shapiro, Sarnak (in the case of the reals) and partial results of Li (in the case of the complexes). We use our theory to analyse the meaning of the poles in the continuation. (Received August 26, 2011)