L-functions and functoriality for the quasi-split classical groups over function fields. Preliminary report.

We study L-functions for products of globally generic representations of classical groups and general linear groups via the Langlands-Shahidi method over function fields. The Converse Theorem of Cogdell and Piatetski-Shapiro leads us towards a Langlands functorial lift from globally generic cuspidal automorphic representations of classical groups to automorphic representations of GL(N). A study of the image of functoriality allows us to express the lift to GL(N) as an isobaric sum. Combining our results with the work of Lafforgue on the Langlands correspondence for GL(N) over function fields, we establish the Ramanujan Conjecture for the classical groups. (Received August 07, 2012)