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Luis A. Lomelí* (lomeli@math.purdue.edu), Department of Mathematics, The University of Oklahoma, Norman, OK 73019-3103. *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)