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Luis A. Lomeli* (lomeli@math.ou.edu), Department of Mathematics, The University of Oklahoma, Norman, OK 73019-3103. *The Langlands-Shahidi method for the classical groups in positive characteristic and the Riemann Hypothesis*. Preliminary report.

We provide a definition for an extended system of γ -factors for products of generic representations τ and π of split classical groups or general linear groups over a non-archimedean local field of characteristic p . We prove that our γ -factors satisfy a list of axioms (under the assumption $p \neq 2$ when both groups are classical groups) and show their uniqueness (in general). This allows us to define extended local L -functions and root numbers. We then obtain automorphic L -functions $L(s, \tau \times \pi)$, where τ and π are globally generic cuspidal automorphic representations of split classical groups or general linear groups over a global function field. In addition to rationality and the functional equation, we prove that our automorphic L -functions satisfy the Riemann Hypothesis. (Received August 12, 2013)