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Yeansu Kim* (yeansu-kim@uiowa.edu), Department of Mathematics, 14 MacLean Hall, Iowa city, IA 52242. *L-functions from Langlands-Shahidi method and the generic Arthur packet conjecture.*

L -functions are very interesting tools that number theorists have been using since 18th century. Those also appear in the local Langlands conjecture. Briefly, the local Langlands conjecture asserts that there exists a ‘natural’ bijection between two different sets of objects: Arithmetic (Galois or Weil-Deligne) side and analytic (representation theoretic) side. In each side, we can define the L -functions of those objects. The L -functions from analytic side are defined by Shahidi (Langlands-Shahidi method) and the L -functions from arithmetic side are Artin L -functions. The natural question is whether two L -functions are equal through the local Langlands correspondence. If it is, we can use the properties of the L -functions from arithmetic side to study L -packet, the object in the analytic side, which is the set of irreducible admissible representations of quasi split group G over p -adic field. The equality of L -functions has an interesting application in proving the generic Arthur L -packet conjecture. The generic Arthur L -packet conjecture states that if the L -packet attached to Arthur parameter has a generic member, then it is tempered. In this talk, I will explain those in the case of split $GSpin$ groups. (Received September 08, 2013)