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**Dongming She\*** ([shed@purdue.edu](mailto:shed@purdue.edu)), 150 N University St, West Lafayette, IN 47907. *Local Langlands Correspondence and analytic stability of gamma-factors.*

In this talk we will discuss local Langlands correspondence for  $GL(n)$ , give a brief introduction to Langlands-Shahidi method, and then talk about the approach of using the stability of the arithmetic and analytic  $\gamma$ -factors to deduce the equality of the local arithmetic and analytic  $\epsilon$ - and L-factors. The arithmetic stability has been established by P. Deligne in general. But the analytic stability remains open. So far there are only a few cases are known.

We will use the group ( $Gspin$ ) to define the twisted exterior and symmetric square *epsilon*- and L-factors for  $GL(n)$ , reduce the problem to the stability of local coefficient, which can be represented as the Mellin transform of certain partial Bessel function. We will then apply some analysis to obtain a formula for the asymptotic behavior of the partial Bessel function. This result generalizes the formula in the work of J.W. Cogdell, F. Shahidi, and T.L. Tsai in 2017, and may give some ideas on how to approach the general analytic stability. (Received February 01, 2020)