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**Ana Caraiani, Ellen Eischen and Jessica Fintzen\*** (fintzen@umich.edu), Department of Mathematics, University of Michigan, 530 Church St, Ann Arbor, MI 48109, and **Elena Mantovan** and **Ila Varma**. *p-adic q-expansion principle and families of automorphic forms on unitary groups of arbitrary signature.*

We discuss a variant of the q-expansion principle (called the Serre-Tate expansion principle) for p-adic automorphic forms on unitary groups of arbitrary signature. We outline how this can be used to produce p-adic families of automorphic forms on unitary groups, which has applications to the construction of p-adic L-functions. This is done via an explicit description of the action of certain differential operators on the Serre-Tate expansion. (Received September 14, 2016)