On the Gross-Keating invariant of a quadractic form over a non-archimedean local field of characteristic zero and its application to Siegel series

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Abstract

The Siegel series of a quadratic form over a local non-archimedean local field of characteristic zero appears as a local factor of the Fourier coefficient of Siegel Eisenstein series. But the calculation of the Siegel series was notoriously complicated in the case of dyadic field. We will explain that the Siegel series can be calculated in terms of Gross-Keating invariants in a uniform way.