ON SOME GENERATING FUNCTIONS OF THE RIEMANN ZETA FUNCTION

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Abstract: Tow zeta-functions associated with the classical Poincaré series attached to modular group are introduced as ordinary Dirichlet series. Integral representations, transformation formulas are given, which lead to the Voronoï type summation formulas for some generating functions of the Riemann zeta function. As an application, we give two new proofs of the Fourier series expansion of the Poincaré series.

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