

AN APPROACH TO MOMENTS OF THE RIEMANN ZETA-FUNCTION

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ABSTRACT: Jon Keating and I have recently developed an approach to moments of the Riemann zeta-function which involves higher order correlations of divisor functions. We describe this approach, which produces conjectural answers to higher moments that are in agreement with other conjectural answers. At first sight it seems that we are possibly overcounting some of our terms. But we argue that this is an example of Manin's theory of stratified subvarieties wherein some solutions to Diophantine problems are not revealed by the obvious application of the Hardy-Littlewood method.