

Interpolated sequences and critical L -values of modular forms

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Abstract: It is well-known that the Apéry numbers which arise in the irrationality proof for $\zeta(3)$ satisfy many interesting arithmetic properties and are related to the Fourier coefficients of a weight 4 modular form. Recently, Zagier expressed an interpolated version of these numbers in terms of a critical L -value of the same modular form. We discuss this evaluation as well as extensions, including to interpolations of Zagier's six sporadic sequences. Our focus is on applications of and challenges for computer algebra that come up naturally in the context of these evaluations. This talk is based on joint work with Robert Osburn.