

Chen Wang's proof of the Borwein conjecture



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Abstract: The (so-called) Borwein conjecture arose around 1990 and states that the coefficients in the polynomial

$$(1 - q)(1 - q^2)(1 - q^4)(1 - q^5) \cdots (1 - q^{3n-2})(1 - q^{3n-1})$$

have the sign pattern $+ - - + - - \dots$. This innocent looking prediction has withstood all proof attempts until last year when Chen Wang found a proof that combines asymptotic estimates with a computer verification for “small” n . I shall review the history of the conjecture and the various attempts that have been made to prove it, and then give an overview of Wang's proof. I shall close with further open problems in the same spirit.