

Séminaire de théorie des nombres

Le 24 mars 2014 à 14h (PRG)

The mock modularity of q -hypergeometric series

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Résumé : An intriguing and almost completely unsolved problem is to understand the overlap between classes of q -hypergeometric series and modular forms. This challenge was the subject of George Andrews' plenary address at the UIUC Millennial Conference on Number Theory and has its origin in Ramanujan's last letter to G.H. Hardy on January 12, 1920 whereby 17 mock theta functions were introduced. We discuss recent work concerning the explicit construction of new individual examples and infinite families of mock theta functions (in the modern sense of Zagier). Additionally, we discuss various ways to produce q -hypergeometric series which are mixed mock modular forms. This is joint work with Jeremy Lovejoy (Paris 7).