Identities for $1/\pi^2$ and special hypergeometric motives

John Voight
Dartmouth College

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Abstract

More than a century ago, Ramanujan discovered remarkable formulas for $1/\pi$. Inspired by these discoveries, similar Ramanujan-like expressions for $1/\pi^2$ have been uncovered recently by Guillera. We explain the provenance of these formulas: we recognize certain special hypergeometric motives as arising from Hilbert modular forms in an explicit way. This is joint work with Lassina Dembélé, Alexei Panchishkin, and Wadim Zudilin.