RAMANUJAN-TYPE SUPERCONGRUENCES

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Abstract. In the early 1900's Ramanujan listed several infinite series representations of $1/\pi$. These were later used to calculate decimal expansions for π to great precision. Surprisingly, van Hamme discovered p-adic analogs of several of these formulas and formulated 13 conjectures. Some of these have been proved and others remain open questions. Here, following the Chudnovsky brothers work on formulas for $1/\pi$ we prove p-adic analogs connected to elliptic curves with complex multiplication. This is joint work with Sarah Chisholm, Alyson Deines, Ling Long, and Gabriele Nebe