

The Arithmetic of modular forms associated to Fermat curves

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Resumo/Abstract:

For an odd integer N we study certain modular forms and modular functions associated to the Fermat curve $x^N + y^N = z^N$. Generically, these modular forms are modular forms for noncongruence subgroups.

After reviewing basic results and conjectures about the arithmetic of modular forms for noncongruence subgroups (Atking and Swinnerton-Dyer congruences, and Scholl's Galois representations), we'll give some examples of these phenomena in the case of Fermat curves.