# Modular forms, de Rham cohomology and congruences

## Talk

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(joint work with Anthony J. Scholl)

In 1971 Atkin and Swinnerton-Dyer discovered remarkable congruences involving Fourier coefficients of modular forms for noncongruence subgroups. Substantial part of these congruences have been proved by Scholl in 1985 (following work of Cartier, Ditter and Katz). We will explain that similar congruences hold for weakly modular forms. Using interaction of weakly modular forms and modular forms on certain quotient of Fermat curve, we will show that original Atkin and Swinnerton-Dyer type of congruences for modular forms do not hold in this particular example. This is joint work with A.J. Scholl.

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