K-Theory, Quadratic Forms and Number Theory Seminar

Title: Coset models and Nahm's conjecture

Speaker: Dr. Sinead Keegan (DIAS)

Date: Wed 24th November 2010 at 3:00PM

Location: Mathematical Sciences Seminar Room

Abstract: Nahm's conjecture deals with the question of when a certain r-fold q-hypergeometric series $f_{A,B,C}$ is modular. In particular it predicts which values of A may occur. In the case where A is chosen such that $f_{A,B,C}$ is modular there is no known method for calculating suitable values of B (without resorting to a computer search!). In this talk we look at Nahm's conjecture from the point of view of conformal field theory by considering coset models of the form $\hat{su}(2)_k/\hat{u}(1)$. By calculating the characters of these cosets and relating them to the functions $f_{A,B,C}$ it can be seen that the B-values satisfy a nice pattern that is closely related to the matrix A.