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Odd coefficients of weakly holomorphic modular forms.

Let $f(z)$ be a weakly holomorphic (i.e. poles if any are supported at the cusps) modular form whose Fourier coefficients are algebraic integers. We consider the problem of finding lower bounds for the number of odd Fourier coefficients of f . Our result has consequences for a variety of generating functions of number-theoretic and combinatorial interest. (Received September 20, 2007)