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The Spin of Prime Ideals

For a given number field K and a fixed automorphism, we attach to ideals of K a symbol, the "spin", which describes the quadratic nature of the ideal relative to its Galois conjugate. We show the equidistribution of the spin when summed over prime ideals. The result is applied to the arithmetic statistics of Selmer groups of elliptic curves. This highlights work joint with H. Iwaniec, B. Mazur and K. Rubin.