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Images of Galois representations associated to elliptic curves

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Abstract: It is a classical result that, for a fixed positive integer n, "almost all" degree n polynomials with integer coefficients are irreducible and have Galois groups which are as large as possible, namely the full symmetric group on n letters. This fits into the more general problem of determining the generic Galois behavior of other classes of polynomials. In this talk, I will discuss the generic Galois behavior of division polynomials attached to elliptic curves, which is motivated in part by a uniformity question posed by Serre in connection with his celebrated open-image theorem for elliptic curves from 1972.

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