Abstract

The MDS conjecture in coding theory implies the following striking arithmetic consequence: over any finite field of q elements, any hypersurface of dimension n at least three defined by a complete symmetric polynomial of degree at most q-3 must have at least 6q^{n-3} rational points. In this talk, we shall give a simple and unconditional proof of this consequence for all q. This is joint work with Daqing Wan.