1145-94-1629 **Sudhir R Ghorpade*** (srg@math.iitb.ac.in), Department of Mathematics, Indian Institute of Technology Bombay, Powai, Mumbai, 400076, India. *Generalized Hamming weights of projective Reed-Muller codes.*

Projective Reed-Muller codes are linear codes corresponding to evaluations of homogeneous polynomials of a fixed degree d in $m+1$ variables with coefficients in a finite field $\mathbb{F}_q$, and these codes can be viewed as a projective analogue of (generalized) Reed-Muller codes. The problem of determination of the generalized Hamming weights of these codes is open in general, and is equivalent to the determination of the maximum number of common solutions that a fixed number of linearly independent homogeneous polynomials of degree d in $m+1$ variables with coefficients in $\mathbb{F}_q$ can have in the corresponding projective space over $\mathbb{F}_q$. A conjecture of Tsfasman and Boguslavsky about these generalized Hamming weights has recently been shown to be true in several cases, but false in general. A new conjecture has been proposed and it has been shown to be valid in many, but not all, cases. We will give an expository account of these developments. These are mainly based on joint works with Mrinmoy Datta as well as with Peter Beelen and Mrinmoy Datta. (Received September 23, 2018)