Meeting: 1005, Newark, Delaware, SS 5A, Special Session on Designs, Codes, and Geometries

1005-05-129   **Aart Blokhuis*** (`aartb@win.tue.nl`), Department of Mathematics and Comp. Science, Technical University Eindhoven, NL 5600 MB Eindhoven, Netherlands. *Old and new applications of Lacunary Polynomials and Rédei Polynomials in Finite Geometry.* Preliminary report.

The study of lacunary polynomials was started by Rédei, who investigated fully reducible polynomials of the form $X^q + g(X)$ with degree$(g) << q$ over the field GF(q). Subsequent improvements of his results led, via the introduction of the Rédei polynomial of a point set in a finite projective plane to many results especially on blocking sets and arcs, but more recently also applications to higher dimensional geometric structures were found. The results we will report on were obtained among others by Simeon Ball, Michel Lavrauw, András Gács, Zsuzsa Weiner, Tamás Szőnyi (and me). (Received February 04, 2005)