
BRETT STEVENS, Carleton University
finite field constructions of an imperfect design

A scheduling problem motivates searching for a design on n^2 points with blocks of size n . Such a design exists, of course, but the problem requires double resolvability, which is impossible. Various notions of "best possible" lead us to three situations where we find finite field constructions meeting the relevant bounds, involving planes, ovals and APN functions.

Joint work with Tim Alderson and Keith Mellinger