

HYPERBENT FUNCTIONS FROM HYPEROVALS

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(joint work with Kanat Abdukhalikov)

In the projective plane $PG(2, q)$, a hyperoval is a set of $q + 2$ points meeting every line in 0 or 2 points. We show that certain hyperovals satisfy a condition that can be written in terms of exponential sums and Kloosterman sums. As an application, we construct new hyperbent functions from these hyperovals.