Deterministic constructions of point sets with small dispersion

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Based on deep results from coding theory, we present an deterministic algorithm that contructs a point set with dispersion at most ϵ in dimension d of size $poly(1/\epsilon) * \log(d)$, which is optimal with respect to the dependence on d. The running time of the algorithms is, although super-exponential in $1/\epsilon$, only logarithmic in d.