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COLLOQUIUM

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Geometrical properties of the ridge functions manifold

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4:15 p.m., ES 143

Tea at 3:45 p.m., ES 152

ABSTRACT

We consider geometrical properties of the manifold G_n formed by possible linear combinations of ridge functions of the form $g((a, x))$, where (a, x) is the inner product in Euclidean space. We estimate the entropy of the manifold G_n in terms of smaller covering number of the intersection of G_n with the unit ball in the polynomial space. Also we estimate the pseudo-dimension of the manifold G_n . Analogous properties we study for the manifolds formed by linear combinations of the functions of the form $g(P(a, x))$, where P is a fixed polynomial (for example radial function $g(|x - a|^2)$).