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Kyle Hambrook* (kyle.hambrook@sjsu.edu) and **Robert Fraser**. *Explicit Salem Sets in Euclidean Space*.

A Salem set is a set which supports a probability measure whose Fourier transform decays at infinity as fast as is allowed by the Hausdorff dimension of the set. We exhibit explicit (i.e. non-random) Salem sets in d -dimensional Euclidean space of every possible Hausdorff dimension. This completely resolves an old problem of Kahane. The construction of the required measure combines Fourier analysis and algebraic number theory in an interesting way. (Received August 13, 2019)