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An invariant set-theoretic approach to "no analytic mad families"

Mathias proved in 1969 that there are no infinite analytic maximal almost disjoint families of subsets of ω . His proof is essentially Ramsey theoretical. A few years ago I found a "classical" proof of this theorem which uses a tree/derivative argument. But in this talk, I will discuss yet another proof, this time one that is closer in spirit to Mathias' original proof, but which avoids the Ramsey theoretical machinery by instead using a bit of garden-variety invariant descriptive set theory.