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Inhomogeneous Diophantine Approximation with restraint denominators on M0-sets and some applications

This is a joint result with Evgeniy Zorin.
In this talk I will present a Schmidt-type theorem for Diophantine approximations with restraint denominators of sufficiently slow growth on M0-sets. Basically, the balance condition between the growth rate of denominators and the decay rate of the Fourier transform of Rajchman measure, supported on M0-sets, will be considered; this balance condition implies a Schmidt-type result.
I will also show some applications: Khintchine Theorem on the set of Liouville numbers; Hausdorff dimension of subsets of inhomogeneous ψ-well approximable real numbers; Schmidt-type theorem for Diophantine approximations with denominators of polynomial growth.