Linear operator equations and Beurling-Pollard type theorems

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The classical Beurling-Pollard theorem states that a function on the group \mathbb{R}^n or \mathbb{T}^n admits the spectral synthesis, if it is sufficiently smooth or (and) its null set is sufficiently thin. We obtain a version of this result for operator synthesis and apply it to the harmonic analysis in Varopoulos algebras, weighted Fourier algebras and to the study of linear operator equations.