LINEAR DYNAMICS AND DERIVATIONS

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Abstract: Linear dynamics has been a rapidly evolving area of operator theory since the late 1980s. I will begin by recalling some basic examples and the pertinent notions of hypercyclicity in order to discuss the dynamics of bounded linear operators in the infinite-dimensional setting. The primary goal is to examine the hypercyclicity of generalised derivations $S \mapsto AS - SB$, for fixed operators A, B, on spaces of operators. Hitherto the principle result in this setting has been the characterisation of the hypercyclicity of the left and right multipliers. The main example I will show is the existence of non-trivial hypercyclic generalised derivations on separable ideals of operators.