

**COMPACTNESS AND INVARIANCE PROPERTIES OF
EVOLUTION OPERATORS ASSOCIATED WITH KOLMOGOROV
OPERATORS WITH UNBOUNDED COEFFICIENTS**

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ABSTRACT. In this talk we consider nonautonomous elliptic operators \mathcal{A} with nontrivial potential term defined in $I \times \mathbb{R}^d$, where I is a right-halfline (possibly $I = \mathbb{R}$). We prove that we can associate an evolution operator $(G(t, s))$ with \mathcal{A} in the space of all bounded and continuous functions on \mathbb{R}^d . We also study the compactness properties of the operator $G(t, s)$. Finally, we provide sufficient conditions guaranteeing that each operator $G(t, s)$ preserves the usual L^p -spaces and $C_0(\mathbb{R}^d)$.

Joint work with L. Angiuli (Università del Salento).