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TÍTULO: FOLNER-TYPE APPROXIMATIONS OF UNBOUNDED OPERATORS MOTIVATED BY QUANTUM MECHANICS

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BREVE RESUMEN:

The amenability notion was first coined by von Neumann in his study of the Banach-Tarski paradox in which he dichotomously classified groups as amenable or paradoxical. Later on, Folner gave an equivalent characterization of amenable groups that had the advantage of being easier to extend to other areas, as Connes in particular did with operator algebras. Regarding the context of bounded operators, both Connes and Bédos have contributed to the study of Folner-type approximations which refer to approximations by sequence of increasing projections that asymptotically commute in mean with a given operator. Nevertheless, in the context of operator theory on Hilbert spaces, this type of approximations has been studied in the frame of bounded operators.

In this work, after a thoughtful study of the bounded case, we study a generalization to the unbounded one considering an approach for such an extension which is originated in the setting of quantum mechanics.

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