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# Measures of noncompactness in Hilbert $C^*$-modules

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**Abstract.** Consider a countably generated Hilbert $C^*$-module $\mathcal{M}$ over a unital $C^*$-algebra $\mathcal{A}$. There is a measure of noncompactness $\lambda$ defined, roughly as the distance from finitely generated sets, which is independent of any topology. We compare $\lambda$ to the Hausdorff measure of noncompactness with respect to the family of seminorms that induce a topology recently introduced by Troitsky, denoted by $\chi$. We obtain $\lambda \equiv \chi$. Related inequalities involving other known measures of noncompactness, e.g., Kuratowski and Istrăţescu are also obtained, as well as, some related results on adjointable operators.

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