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 λ defined, roughly as the distance from finitely generated sets, which is independent of any topology. We compare λ to the Hausdorff measure of noncompactness with respect to the family of seminorms that induce a topology recently introduced by Troitsky, denoted by χ. 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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