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On Runge-curved domains in Stein spaces

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Abstract. We prove the following result: if X is a Stein complex space and $D \subset X$ is an open subset, then D is Runge-curved in X if and only if the canonical map $H^1_c(D, \mathcal{F}) \to H^1_c(X, \mathcal{F})$ is injective for every $\mathcal{F} \in \mathrm{Coh}(X)$. We also show that a Runge-curved open subset of a Stein manifold is necessarily Stein.

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