# Rationally isotropic quadratic spaces are locally isotropic

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Abstract. A conjecture due to Colliot-The'l'ene asserts that for a regular local ring R with its fraction field K each R-quadratic space (V,q), which is isotropic over K is isotropic over R (it is supposed that 2 is a unit in R). That is there exists a unomordular vector v in V with q(v)=0. This conjecture is proved for regular local rings R containing a field due to results by the speaker (2009), joint results of K.Pimenov and the speaker (2010), and a result by S.Scully (2018). The case of mixed characteristic ring R is widely open. In the talk a resent result by the speaker on the mixed characteristic case will be presented. We solve the conjecture in positive for a rather wide class of mixed characteristic regular local rings R. Our approach is based on new geometric presentation lemmas.

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