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$\mathcal{Z}$-absorption and small boundary property

A C*-algebra is said be $\mathcal{Z}$-absorbing if it absorbs the Jiang-Su algebra $\mathcal{Z}$ tensorially. Let us consider a free and minimal $\mathbb{Z}^d$ action on a compact metrizable space, and let us consider the corresponding crossed product C*-algebra. Then it is shown recently that the $\mathcal{Z}$-absorption of the crossed product C*-algebra, which is a C*-algebra property, indeed is completely characterized by the small boundary property (or the zero mean dimension) of the standard Cartan subalgebra, which is a dynamical system property. Along the way, the $\mathcal{Z}$-absorption of the crossed product C*-algebra is also shown to be equivalent to other (C*-algebra or Cantan subalgebra) properties such as uniform property Gamma or zero real rank of certain sequence algebras. The talk is base on joint works with George A. Elliott.