Polynomial identities and trace codimensions

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An aspect of PI-theory is the study of growth functions associated to the polynomial identities of a given algebra. This is expressed by the asymptotics of the sequence of codimensions of the algebra and several results have been obtained in characteristic zero.

When the algebra is endowed with a trace function one studies the corresponding sequence of trace codimensions. I will survey on some of the results obtained in this setting comparing them with the classical case.