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Radii of Elements in Finite-Dimensional Power-Associative Algebras

The purpose of this talk is to introduce a new concept, the *radius* of elements in arbitrary finite-dimensional power-associative algebras over the field of real or complex numbers. It is an extension of the well-known notion of classical spectral radius.

As examples, we shall discuss this new kind of radius in the setting of matrix algebras where it reduces to the spectral radius, and then in the Cayley-Dickson algebras where it is something quite different.

We shall also describe two applications of this new concept which are related, respectively, to the Gelfand formula, and to the stability of norms and subnorms.