Basic ideals in evolution algebras

Mercedes Siles (University of Málaga, Spain)
msilesm@uma.es

We will speak about the notion of basic ideal in an evolution algebra, which will provide with a useful tool in order to classify finite dimensional evolution algebras. We show that any n-dimensional perfect evolution algebra has a maximal basic ideal; it will be unique except when its dimension is $n-1$. As an application we will provide the classification of the four dimensional perfect non-simple evolution algebras over a field with mild restrictions.