Stratification of the space of foliations on $\mathbb{CP}^2$

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In this talk we will construct a stratification of the space of foliations on $\mathbb{CP}^2$ of degree d with respect to the action by change of coordinates of $Aut(\mathbb{CP}^2)$. We use the Norbert A'Campo's implementation of Popov's algorithm to obtain the indexing set of the stratification and the dimension of the strata. In some cases we characterize the foliations on every stratum according to existence of degenerate singular points and algebraic leaves. These strata are non-singular, locally-closed, algebraic varieties. The aim of the talk is to give arguments to convince us of the usefulness of this stratification to classify foliations with special properties.