

Mori fibre spaces are objects of key importance in the classification of algebraic varieties: they are the end result of a minimal model program for a manifold covered by rational curves. In particular, they admit a fibration whose fibres are Fano varieties.

We are interested in understanding which Fano varieties can be realised as a general fibre of a Mori fibre space. We will present two criteria, one sufficient and one necessary, which turn into a characterisation in the rigid case. We will also show how our criteria can be used to give an exhaustive answer in the case of surfaces and 3-folds and a combinatorial characterisation in the toric case. In the end it will be clear that being a general fibre of a Mori fibre space is a rather restrictive condition.

This talk is based on a joint work with Giulio Codogni, Andrea Fanelli and Roberto Svaldi.