3840650135937228206394 9 & all that: Monodromy of Fano Problems

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A Fano problem is an enumerative problem of counting r-dimensional linear subspaces on a complete intersection in P^n over a field of arbitrary characteristic, whenever the corresponding Fano scheme is finite. A classical example is enumerating lines on a cubic surface. We study the monodromy of finite Fano schemes as the complete intersection varies. We discuss joint work with Borys Kadets which proves that the monodromy group is either symmetric or alternating in most cases. In the exceptional cases, the monodromy group is one of the Weyl groups.