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Titre : Lagrangian tori in projective symplectic manifolds

Résumé : One central problem regarding compact hyperkähler manifolds is to find a good condition for the existence of holomorphic or almost holomorphic fibrations on a compact hyperkähler manifold. Beauville proposed the question whether the existence of a Lagrangian torus A in a compact hyperkähler manifold M gives rise to such a fibration. It turns out that this question can be reduced to whether there exists a hypersurface in M disjoint from A. In this lecture, I will explain a joint work with Richard Weiss which gives an affirmative answer to the latter question. Our work employs two different tools : the theory of action-angle variables for algebraically completely integrable Hamiltonian systems and Wielandt's theory of subnormal subgroups. To apply these tools, we will introduc the notion of webs of submanfiolds and study their monodromy groups.