

Toric constructions of monotone Lagrangian submanifolds in the complex projective plane and the product of spheres

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In a previous paper, I proved that two very different constructions of monotone Lagrangian tori are Hamiltonian isotopic inside the complex projective plane by comparing both of them to a third one called modified Chekanov torus. This modified Chekanov torus has an interesting projection under the standard moment map and motivates a method of construction of (monotone) Lagrangian submanifolds in symplectic toric manifolds via "toric" surgeries. I will explain how this method gave in my joint paper with Miguel Abreu some old and new monotone examples in the complex projective plane and the product of spheres.