

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

ON THE DONALDSON-SCADUTO CONJECTURE

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CCDS 365, Feb 7, 2024, 4-5pm

Tea: 3:45pm in Room 365

Abstract: Part of the Donaldson-Scaduto conjecture is concerned with constructing certain special Lagrangians inside the Calabi-Yau 3-folds obtained from products of \mathbb{C} with an A_n type hyperkähler 4-manifold. We prove this conjecture by solving a real Monge-Ampère equation with a singular right-hand side, which produces a potentially singular special Lagrangian. Then, we prove the smoothness and asymptotic properties for the special Lagrangian using inputs from geometric measure theory. The method produces many other asymptotically cylindrical special Lagrangians. This is joint work with Saman Esfahani.

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin (yslin@bu.edu) or Brian Williams (bwill22@bu.edu) for more information.