

OPTIMAL TRANSPORT BETWEEN ALGEBRAIC HYPERSURFACES

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Optimal transport is the general problem of moving one distribution of mass to another one as efficiently as possible, typically keeping track of the ambient geometry. In this seminar I will present recent results on the optimal transport problem between algebraic hypersurfaces of the same degree in complex projective space – integration on an algebraic hypersurface defines a measure on projective space, and all these measures have the same mass if the degree of the hypersurface is fixed. I will discuss how this problem is equivalent to a Riemannian geodesic problem away from the discriminant and connect to the condition number of polynomial system solving.

Joint work with P. Antonini (Università di Lecce) and F. Cavalletti (SISSA).