

# Enumeration of tropical curves in abelian surfaces

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**Abstract:** Tropical geometry is a powerful tool that allows one to compute enumerative algebraic invariants through the use of some correspondence theorem, transforming an algebraic problem into a combinatorial problem. Moreover, the tropical approach also allows one to twist definitions to introduce mysterious refined invariants, obtained by counting tropical curves with polynomial multiplicities. So far, this correspondence has mainly been implemented in toric varieties. In this talk we will study enumeration of curves in abelian surfaces and use the tropical geometry approach to prove a multiple cover formula that enables a simple and elegant computation of enumerative invariants of abelian surfaces.