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Peter Lambert-Cole* (plc@math.gatech.edu). *Bridge trisections and the Thom conjecture.*

The classical degree-genus formula computes the genus of a nonsingular algebraic curve in the complex projective plane. The well-known Thom conjecture posits that this is a lower bound on the genus of smoothly embedded, oriented and connected surface in CP^2 . The conjecture was first proved twenty-five years ago by Kronheimer and Mrowka, using Seiberg-Witten invariants. In this talk, we will describe a new proof of the conjecture that combines contact geometry with the novel theory of bridge trisections of knotted surfaces. Notably, the proof completely avoids any gauge theory or pseudoholomorphic curve techniques. (Received January 22, 2019)