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Maggy Tomova. *Thin position for graphs in 3-manifolds.*

Scharlemann and Thompson's thin position for graphs in the 3-sphere has been a very useful tool for understanding Heegaard splittings and tunnel number one knots in the 3-sphere, but has not been very useful for the study of knots and graphs in other 3-manifolds. I will describe joint work with Maggy Tomova that introduces a new type of thin position (based on earlier work of Hayashi and Shimokawa) for finite graphs in compact orientable 3-manifolds. We prove that if a graph is put into minimal bridge position with respect to a Heegaard surface then either a degenerate situation happens or the bridge surface can be untelescoped so that every thin surface is essential (incompressible and not boundary-parallel) and every thick surface is strongly irreducible. (Received December 21, 2010)