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Maggie Miller* (maggiem@princeton.edu). *Dehn surgery on links vs. the Thurston norm.*

Let L be an $n > 1$ -component link in a rational homology sphere Y with pairwise nonzero linking numbers. Let S be a Thurston norm-minimizing surface in the complement X of L . By work of Gabai, S is the leaf of a taut foliation on X . Note that $H_2(X, \partial X; \mathbb{R})$ is rank n .

I show that if $[S]$ is primitive and outside a dimension- $(n - 2)$ subset of $H_2(X, \partial X; \mathbb{R})$, then $Y_{\partial S}(L)$ admits a taut foliation containing \widehat{S} as a leaf, so \widehat{S} is norm-minimizing (and we conclude e.g. \widehat{S} is essential, and if S is not genus-zero then the surgered manifold is not $S^1 \times S^2$). In particular, when $n = 2$, there are only finitely many primitive classes where no taut foliation extends after surgery.

In this short talk, I will motivate the theorem and sketch the overall proof method. (Received September 11, 2019)