

# Dehn surgeries that reduce the Thurston norm of a fibered manifold

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**Abstract:** Suppose  $K$  is a knot on the fiber of a surface bundle over the circle. If we do surgery on  $K$  with slope specified by the fiber, then the Thurston norm of the homology class of the fiber will decrease in the new manifold. We will show that the converse is also true. Namely, if a Dehn surgery on a winding number 0 knot in a fibered manifold reduces the Thurston norm of the homology class of the fiber, then the knot must lie on the fiber and the slope is the natural one.