

Almost positive isotropic curvature and surgery

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Abstract

We look at a curvature condition that we get from a weakening of positive isotropic curvature; we refer to this condition as almost positive isotropic curvature. We prove that almost positive isotropic curvature is closed under surgery of co-dimension greater than two. This is in interesting contrast to the fact that positive isotropic curvature is topologically very rigid condition. We then look from where this rigidity stems and why it is lost for almost positive isotropic curvature. We can also prove the theorem for almost positive curvature operator (analogous definition) and almost positive Ricci curvature.