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alpha-Sloped Thin Position for 3-manifolds.

We introduce the concept of alpha-sloped thin position of 3-manifolds with torus boundary and examine its relationship to generalized Heegaard splittings of manifolds resulting from Dehn filling. We compare alpha-sloped thin position of 3-manifolds to other types of thin position for knots and 3-manifolds and discuss how this kind of decomposition gives a more organic picture of M and allows the structure of the manifold to dictate the most natural slope on the boundary. Additionally, we provide illustrative examples and questions motivating the study of alpha-sloped thin position. (Received September 18, 2009)