Abstract

Brock and Dunfield showed that there are integral homology spheres whose thick parts are very thick and take up most of the volume. Precisely, they show that, given $R$ big and $r$ small, there is an integral homology 3-sphere whose $R$-thick part has volume $(1-r)\text{vol}(M)$. Purcell and I find knots in the 3-sphere with this property, answering a question of Brock and Dunfield.