

1077-AG-2085 **Tim D Cochran*** (cochran@rice.edu), MS-136 Math. department, PO Box 1892, Houston, TX
77251-1892. *4-dimensional aspects of knot theory.*

Knots are circles embedded in three-dimensional Euclidean space. A knot is considered to be “unknotted” if it is the boundary of a two-disk embedded in three-dimensional space.

We discuss four-dimensional aspects of knot theory. For example when is a knot the intersection between a knotted two-sphere in 4-dimensional space and a hyperplane? What knots are the boundary of an embedded two disk in $\mathbb{R}^3 \times [0, \infty)$? Why would one ask such questions? What invariants can help us? (Received September 21, 2011)