

1145-51-1459

Florian Frick* (frick@cmu.edu). *Splitting Loops: Variants of the Square Peg Problem.*

In 1911 Toeplitz conjectured that any simple closed curve in the plane inscribes a square. A less famous variant of this problem is Hadwiger's 1971 conjecture that any simple closed curve in 3-space inscribes a parallelogram. Both conjectures have been resolved under some smoothness condition on the curve. We resolve Hadwiger's conjecture in full generality by relating it to partition results for real-valued functions.

This is joint work with Jai Aslam, Shujian Chen, Sam Saloff-Coste, Linus Setiabrata, and Hugh Thomas. (Received September 22, 2018)