

1009-51-34

Robert Huff* (rohuff@indiana.edu). *Soap Films and Kelvin's partition of space*. Preliminary report.

In this talk, we will discuss Lord Kelvin's equal volume partition of space, which is related to the famous soap film observed spanning a cube. Specifically, results will be presented which give existence of these surfaces in terms of explicit parametrizations. The proofs of these results rely on a recent technique involving flat structures, which is used to derive the Weierstrass representation formulas for the surfaces. (Received July 12, 2005)