

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

The TITS Algorithm: A Simple and Robust Method for Calculating Stable Shapes of Axisymmetric Vesicles¹ GERALD LIM, Depts. of (1) Biochem. and Molecular Biology and (2) Otorhinolaryngology, Baylor College of Medicine, One Baylor Plaza, MS: BCM125, Houston, TX 77030 — I have implemented a simple and robust numerical technique for calculating axisymmetric equilibrium shapes of one-component lipid bilayer vesicles. This so-called Tethered Infinitesimal Tori and Spheres (TITS) Algorithm gives shapes that are automatically stable with respect to axisymmetric perturbations. The latest version of this algorithm can, but is not restricted to, impose constraints on any of three geometrical quantities: the area, volume and pole-to-pole distance (in the case of tether formation). In this talk, I will introduce the basic principles of the TITS Algorithm and demonstrate its versatility through a few example shape calculations involving the Helfrich and Area Difference Elasticity bending free energies.

¹Supported by Baylor College of Medicine seed grant to Jonathan Miller and NIDCD grant R01-DC02775 to William E. Brownell

Gerald Lim
Depts. of (1) Biochem. and Mol. Biol. and (2) Otorhinolaryngology
Baylor College of Medicine, One Baylor Plaza, MS: BCM125
Houston, TX 77030

Date submitted: 06 Dec 2004

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