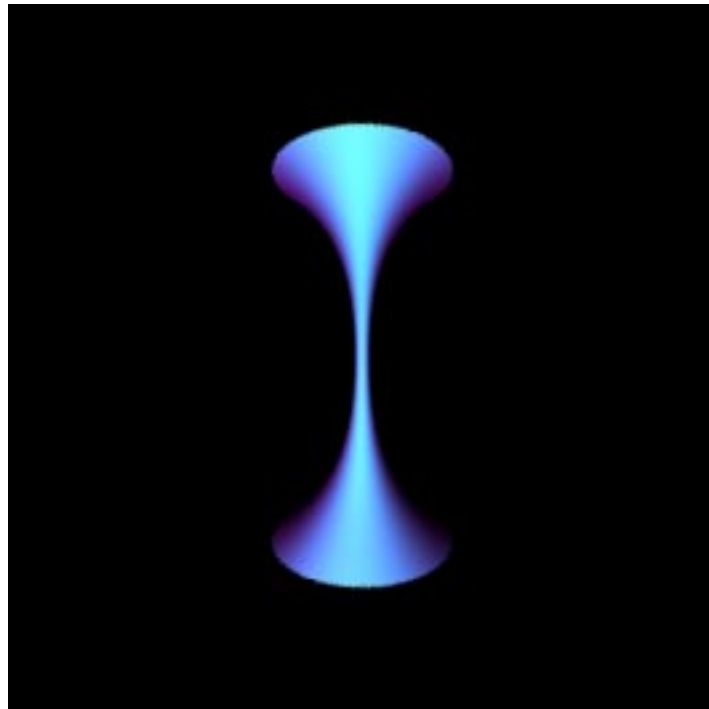


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# **Modeling Minimal Surfaces with Decreasing Euler Numbers via Meshed Particle Systems**

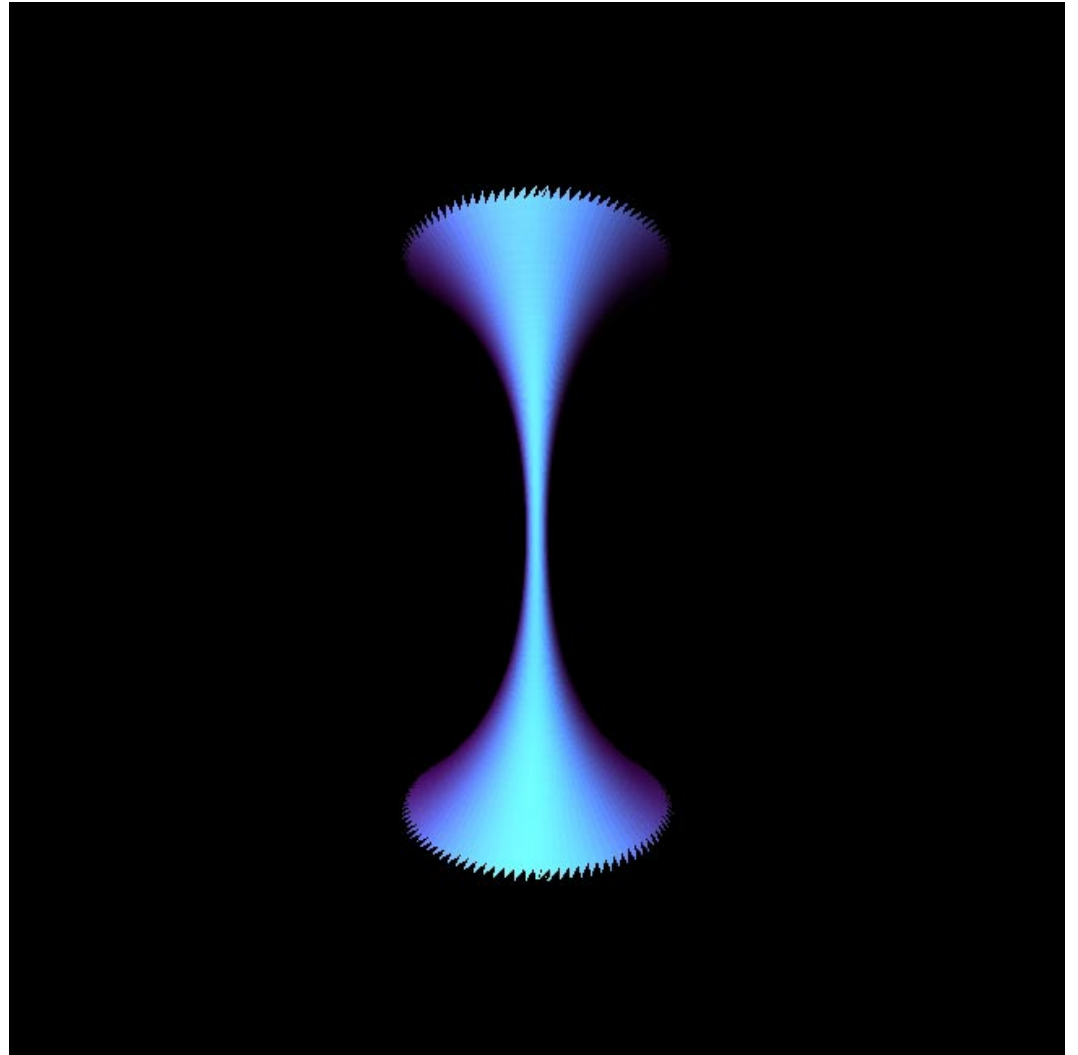
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# Minimal Surfaces: Introduction

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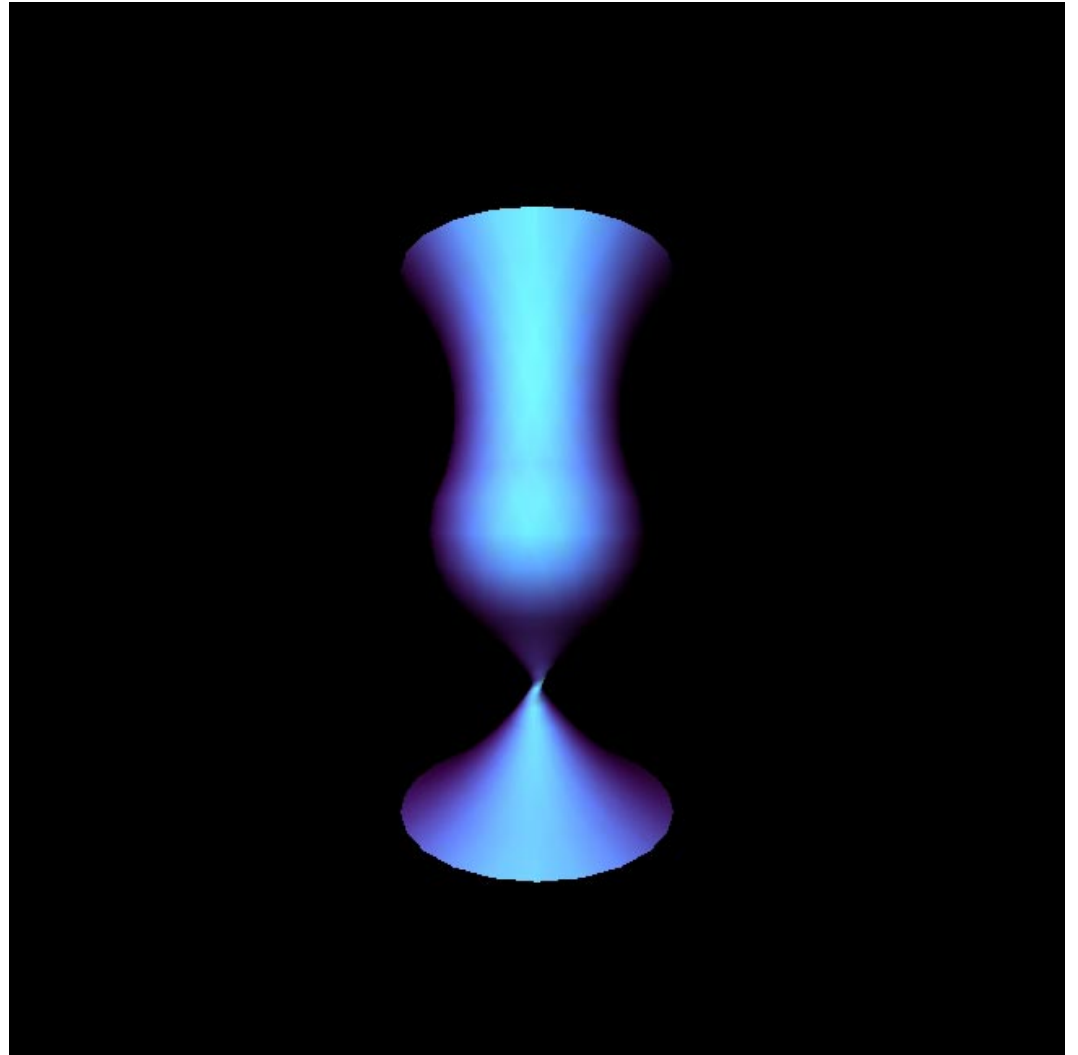
Minimal Surface Area  
(Zero Mean Curvature)



# Minimal Surfaces: How To

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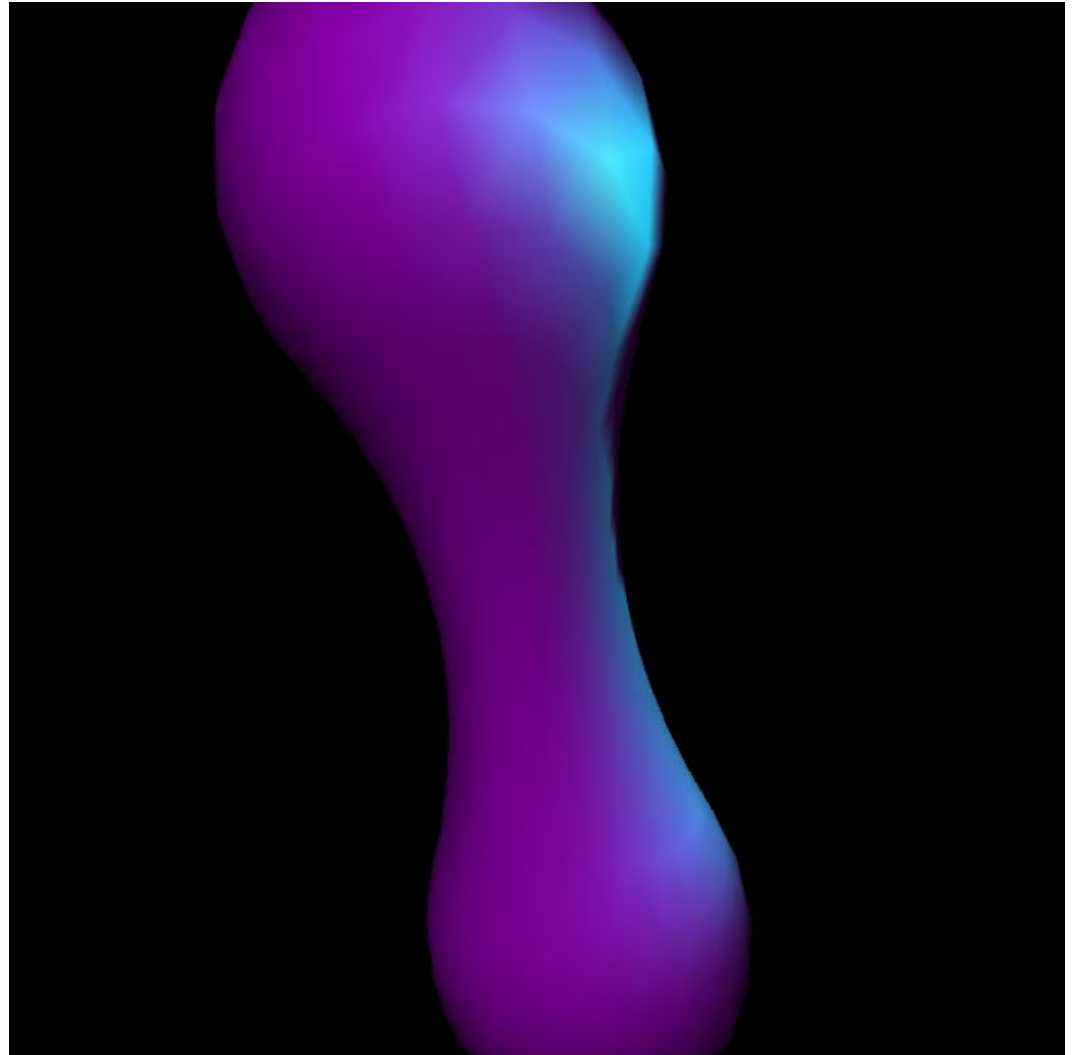
Differential Equations  
Averaging



# Minimal Surfaces: Averaging

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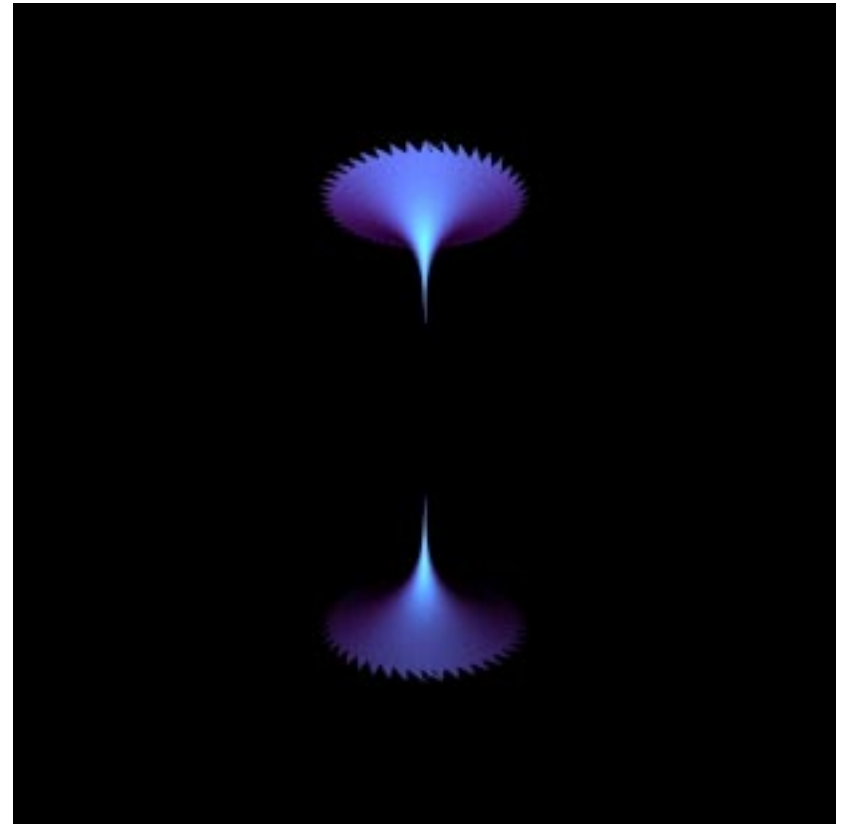
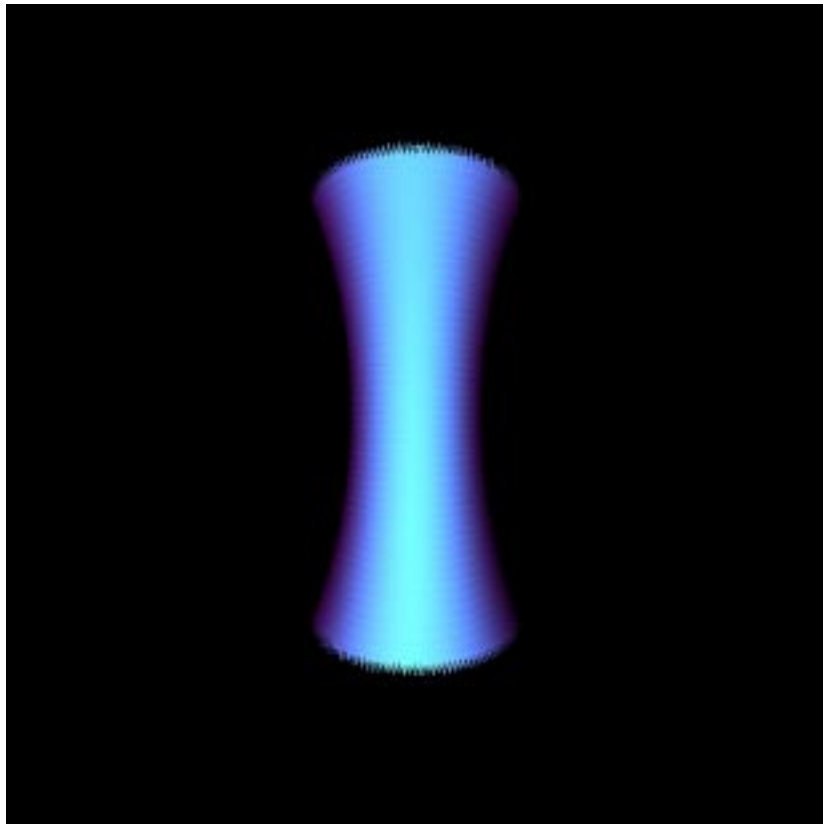
Minimizes Variation  
from First Derivative  
More Stable  
Easier to Code  
Faster Computation



# Minimal Surfaces: Averaging

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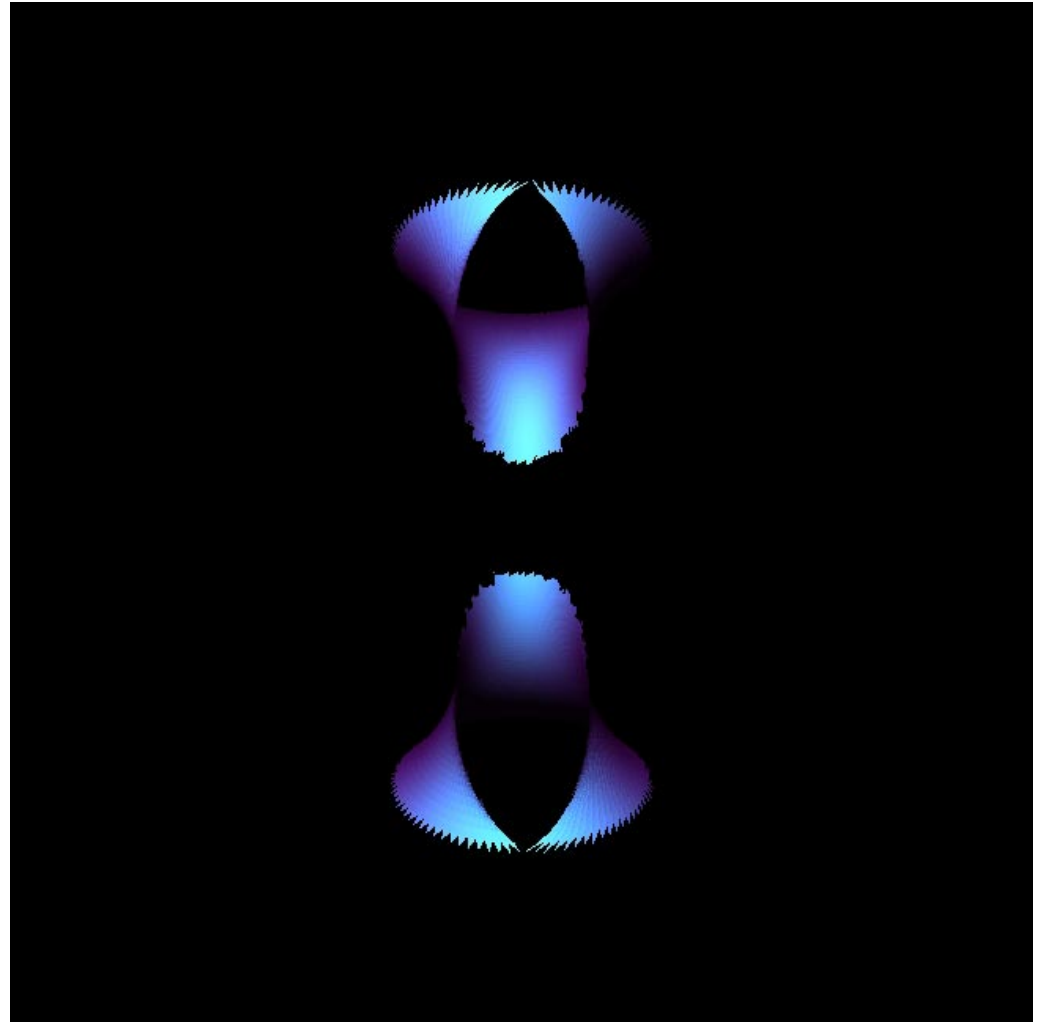
Importance of Weighted Average



# Dynamic Euler Numbers

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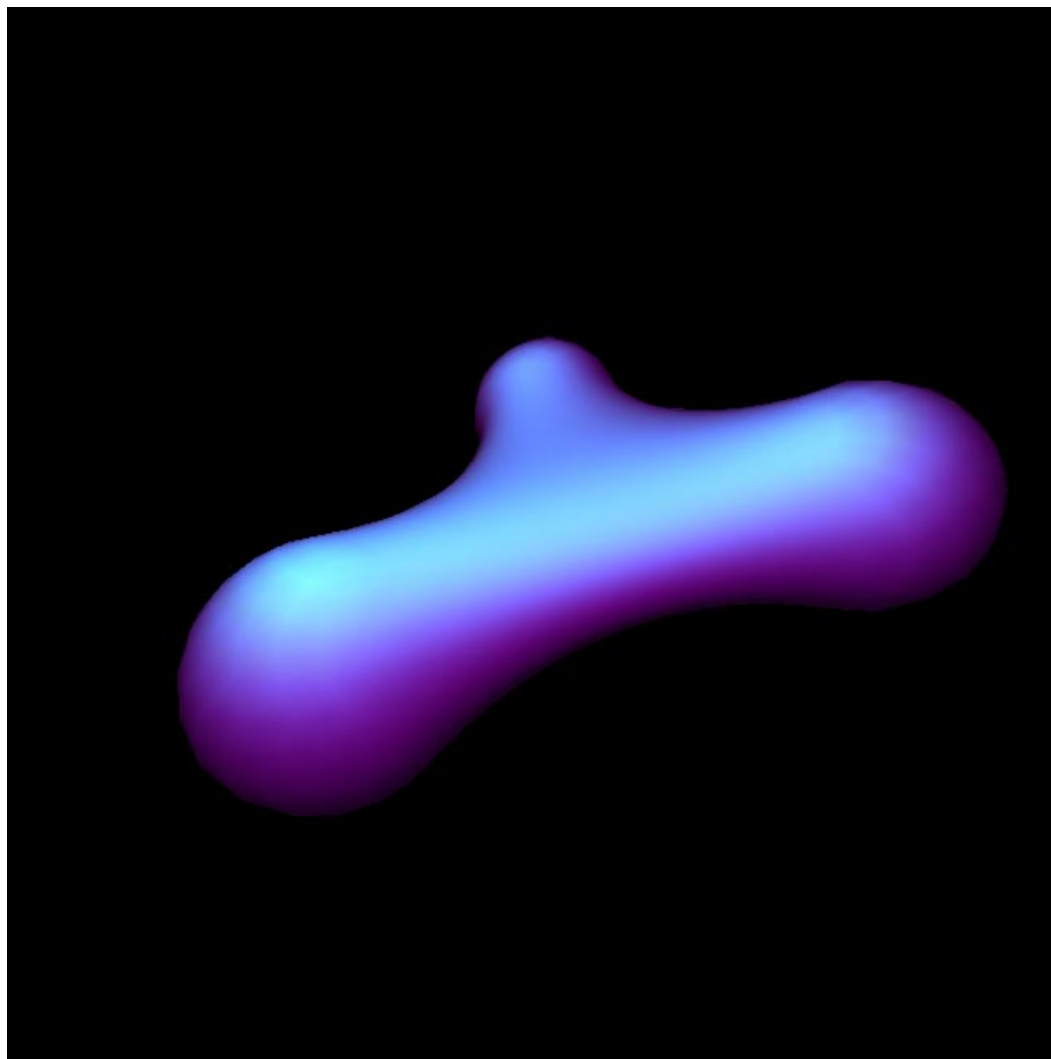
What happens when  
the “Pinch” touches?  
Build a Tunnel.  
Is this well behaved?



# Dynamic Euler Numbers

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Zero Mean Curvature provides proof that self-intersection will not happen.



# Volume Sucking

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