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Alternative Materials for Dental Restorations

Tyler Poole

Virginia Commonwealth University

Pierce Dunwoody

Virginia Commonwealth University

Adarsha Sapkota

Virginia Commonwealth University

Mario Rodriguez

Virginia Commonwealth University

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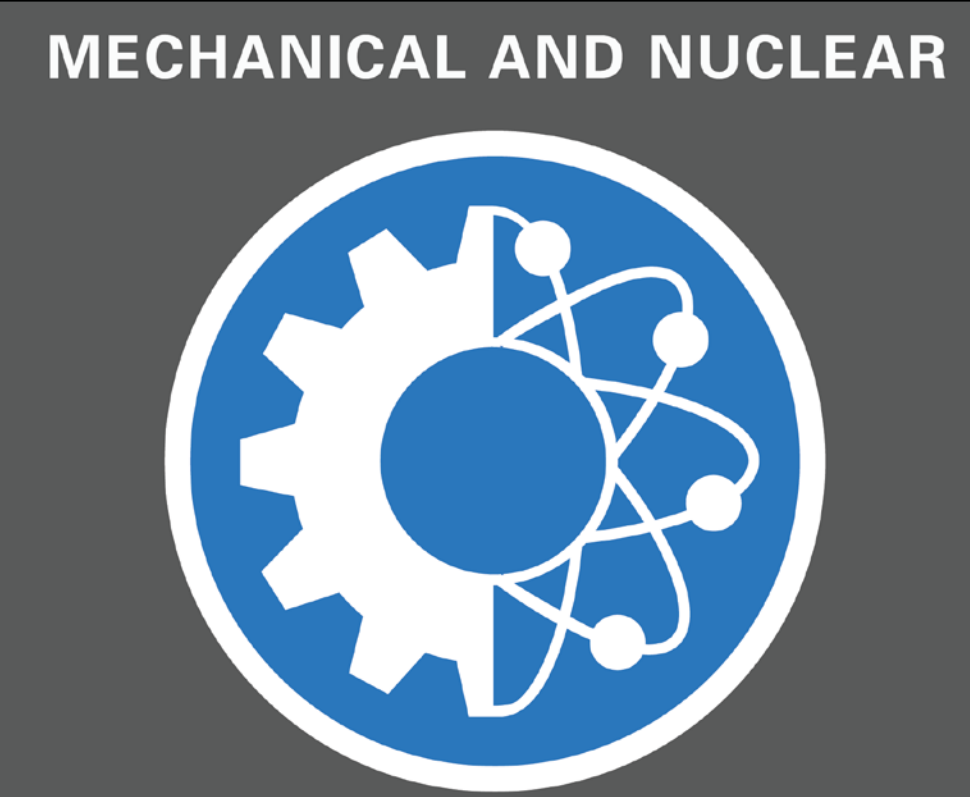
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Team Members: Tyler Poole
Pierce Dunwoody
Adarsha Sapkota
Mario Rodriguez

Faculty Adviser: Weining Wang

Sponsor: VCU



Alternative Materials for Dental Restorations



The Printer and Material

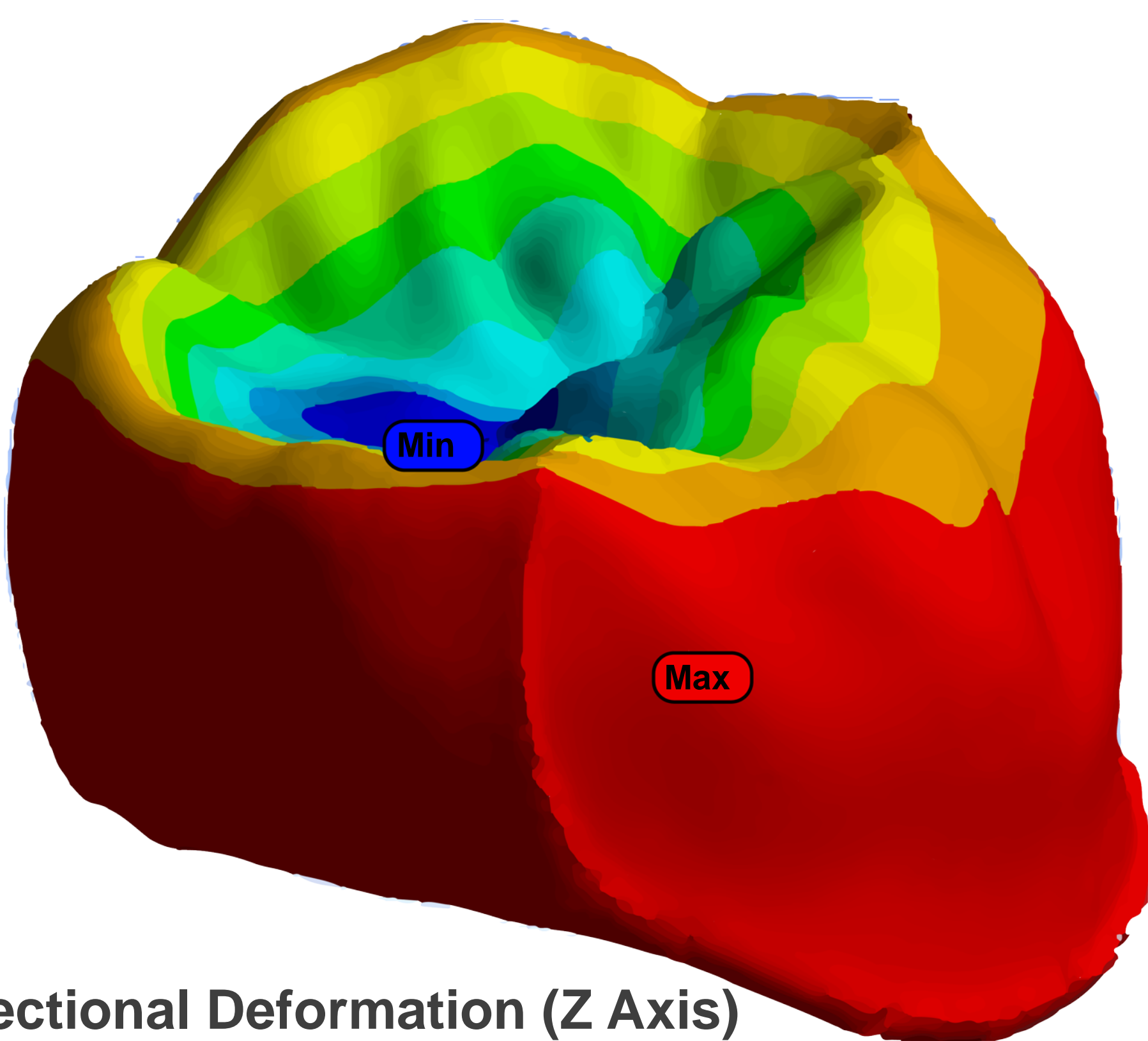


Figure 1: M3D Micro 3D Printer, Cost: \$349.99

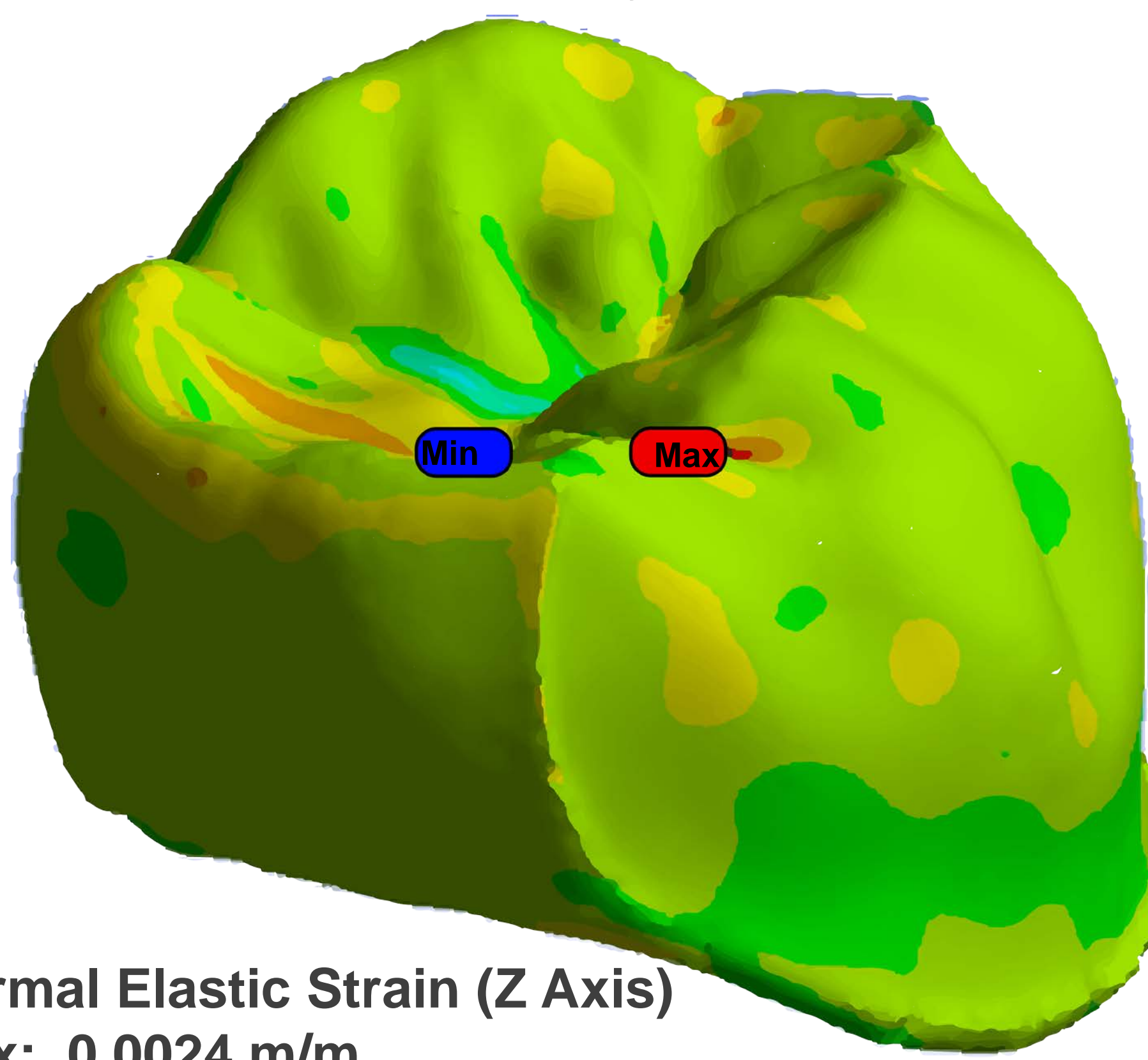


Figure 2: PLA Filament, Cost: \$14/Spool

Structural Analysis



Directional Deformation (Z Axis)
Max: 0.0064 m
Min: -0.0679 m
Figure 3: Deformation Analysis of a Molar Crown



Normal Elastic Strain (Z Axis)
Max: 0.0024 m/m
Min: -0.0038 m/m
Figure 4: Strain Analysis of a Molar Crown

Economic Analysis

MCV's Costly Initial Investment

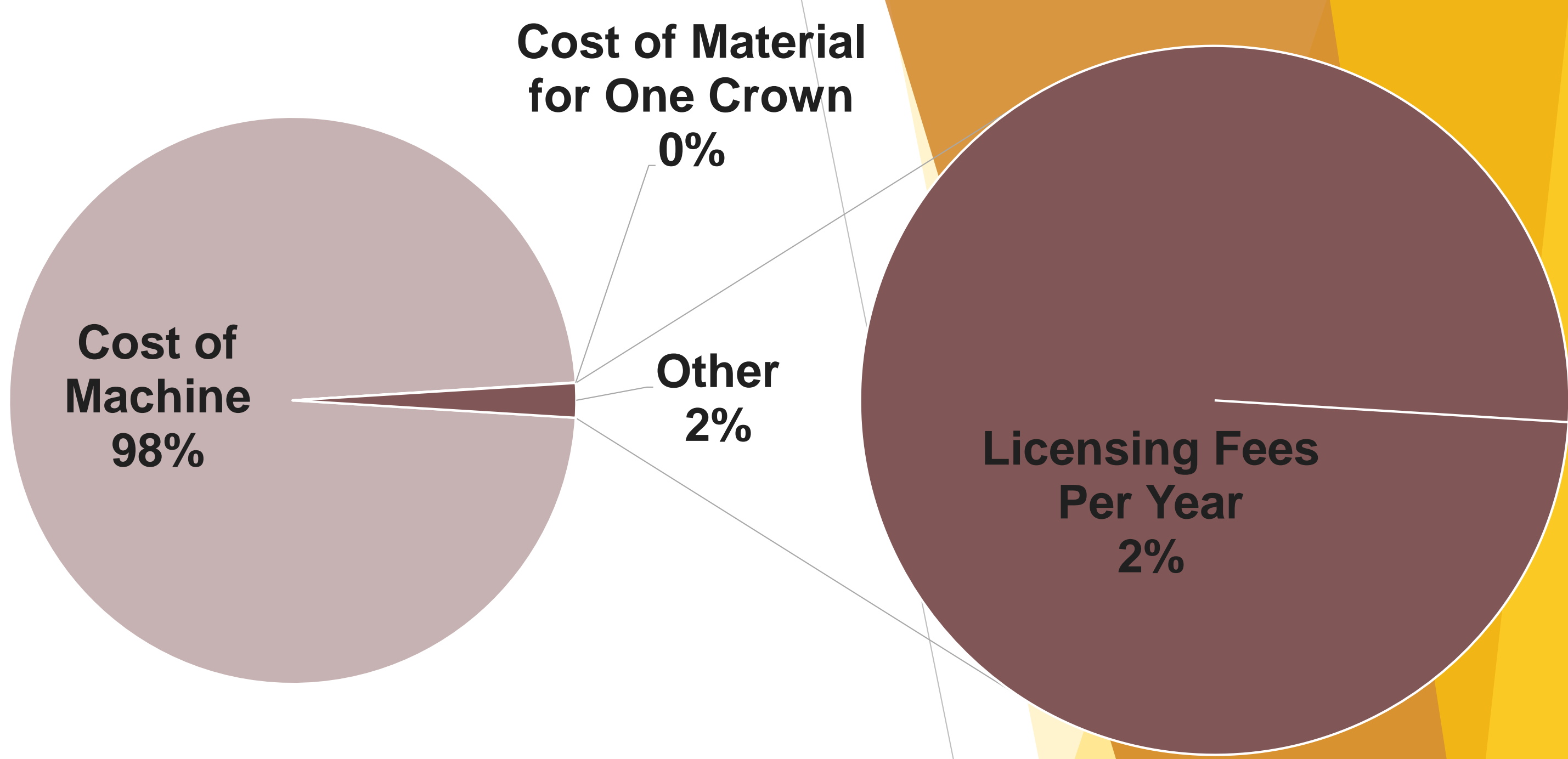


Figure 5: Total Cost for First Milling: \$102030

A Comparison of Various Economic Figures

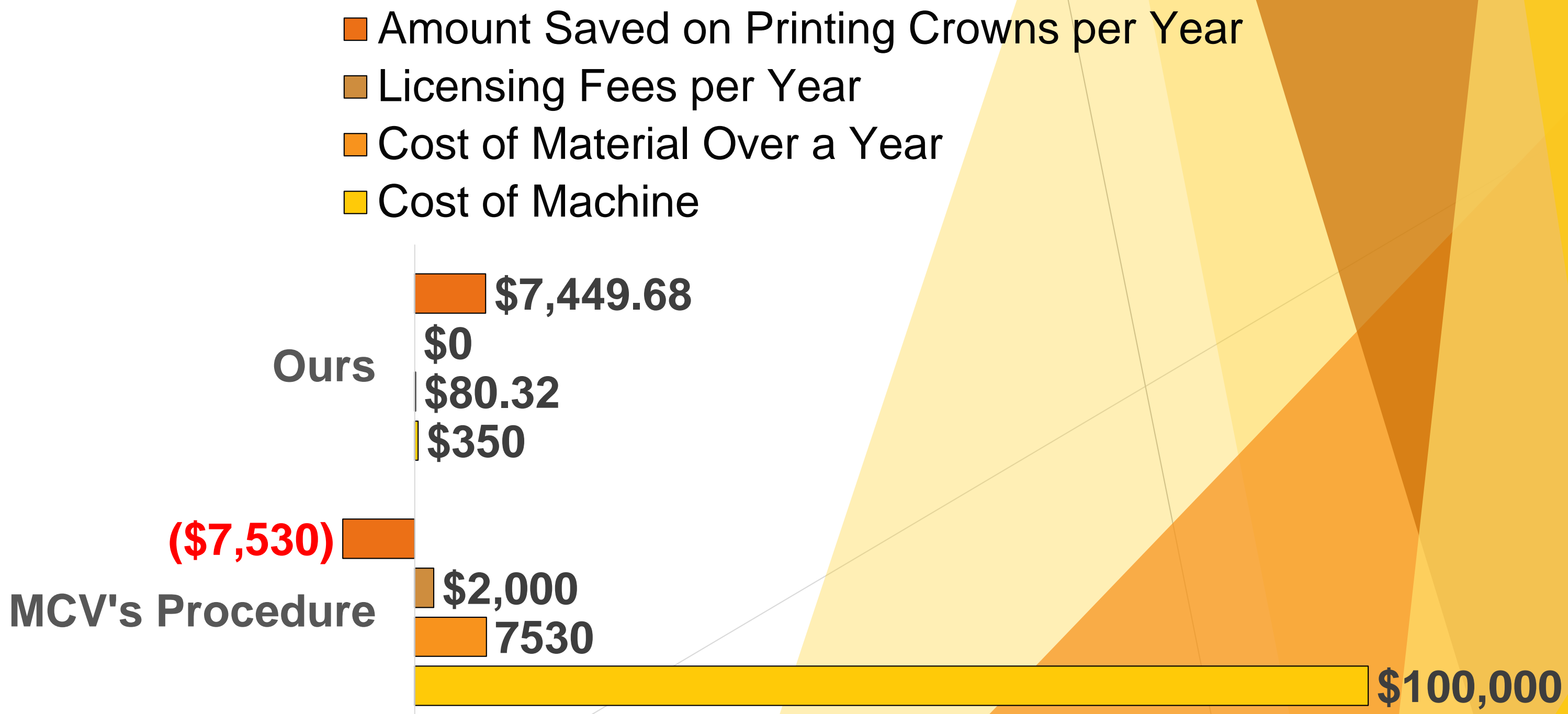


Figure 6: 3D Printing is 98.93% Cheaper