

SUMMiT V TTU μ Chain System

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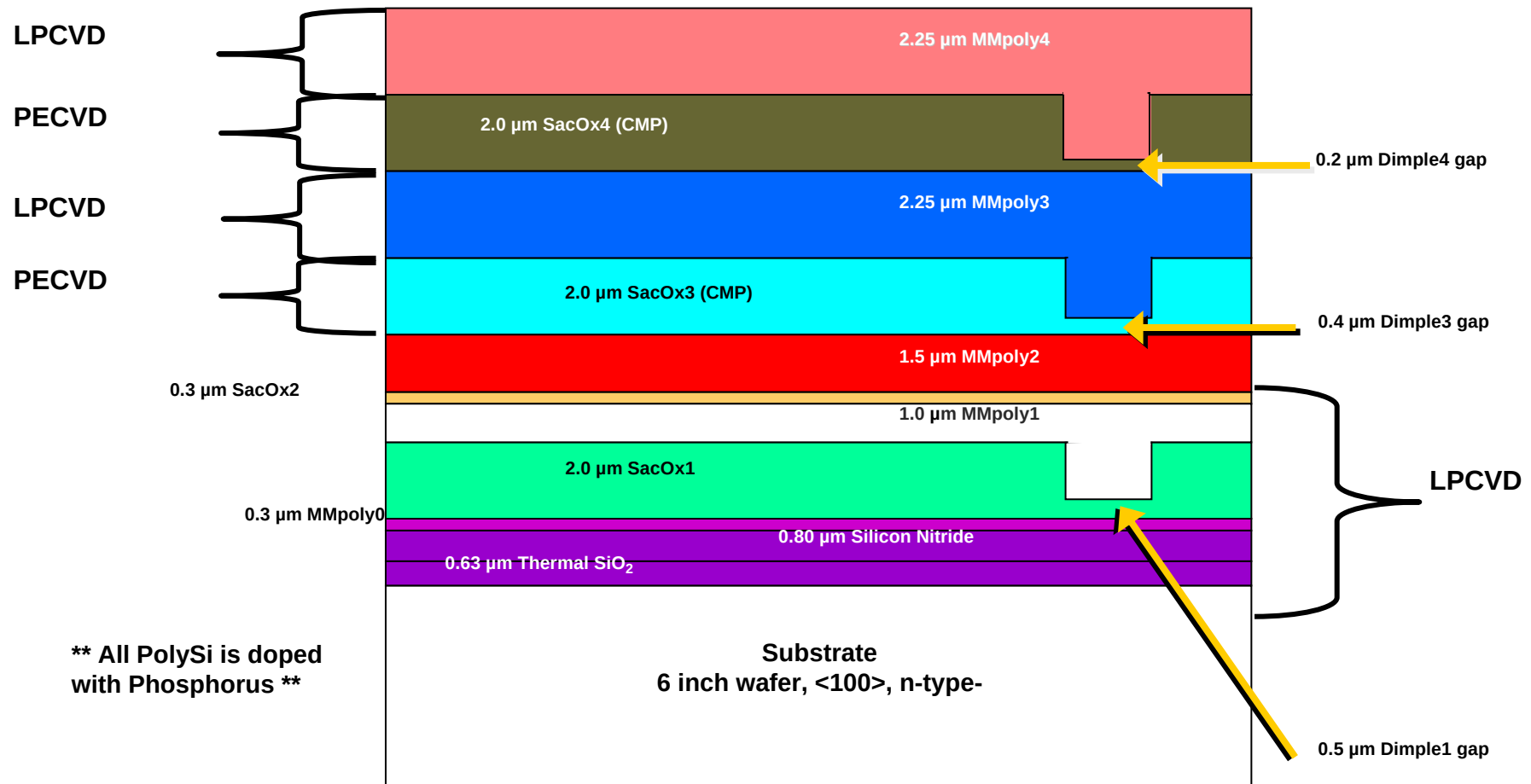
University Alliance Program

Outline

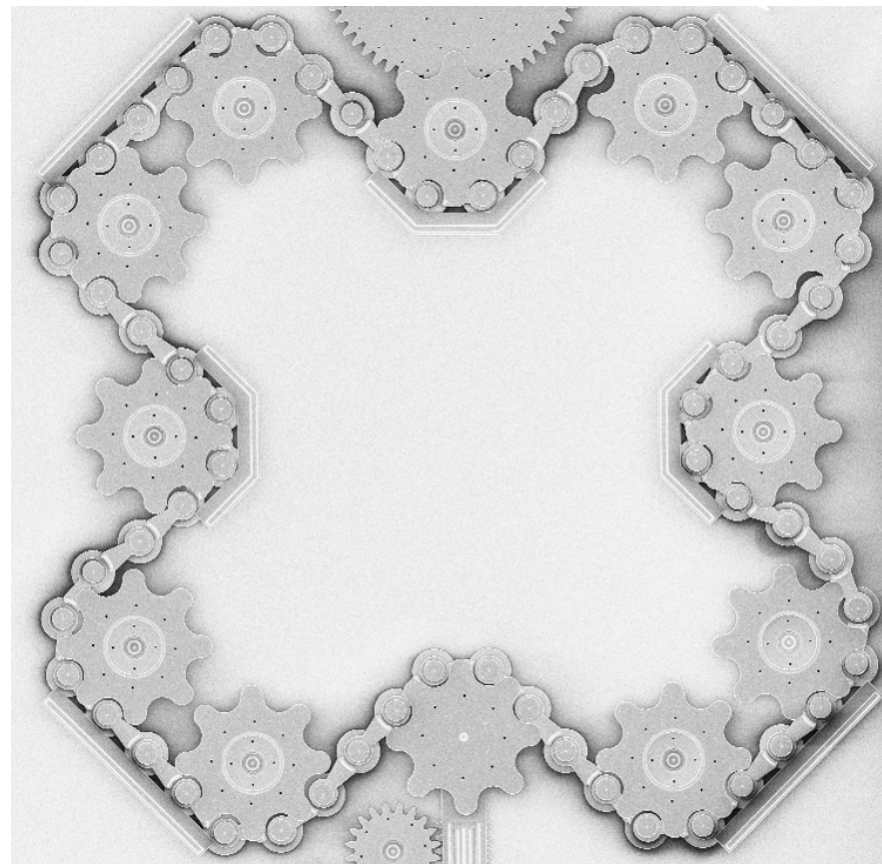
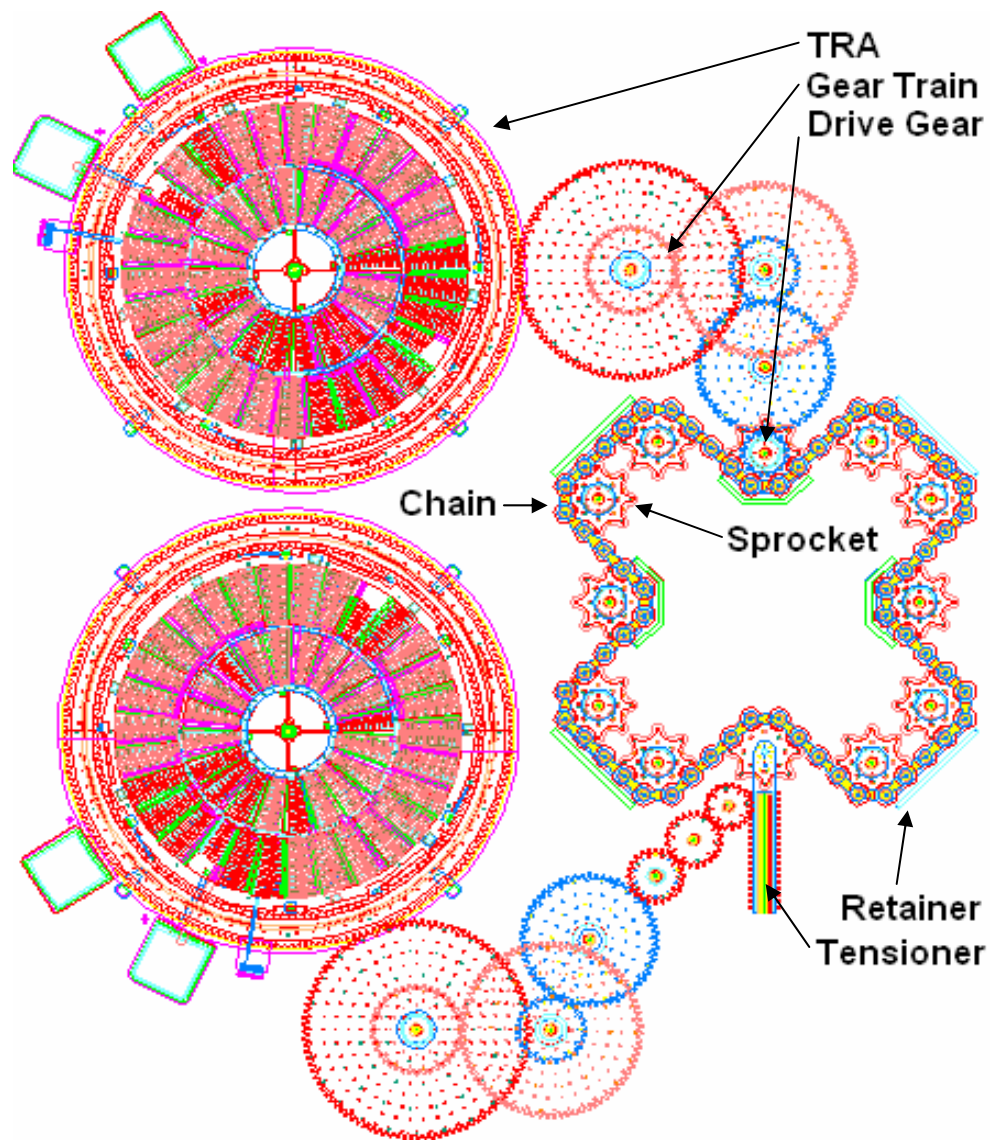
- SUMMiT V Fabrication
- Sandia microChain Design
- TTU μ Chain
 - Overview of device
 - Chain links
 - Sprockets
 - Tensioner
 - Chain performance
- Conclusions and Future work
- Acknowledgements

SUMMiT V

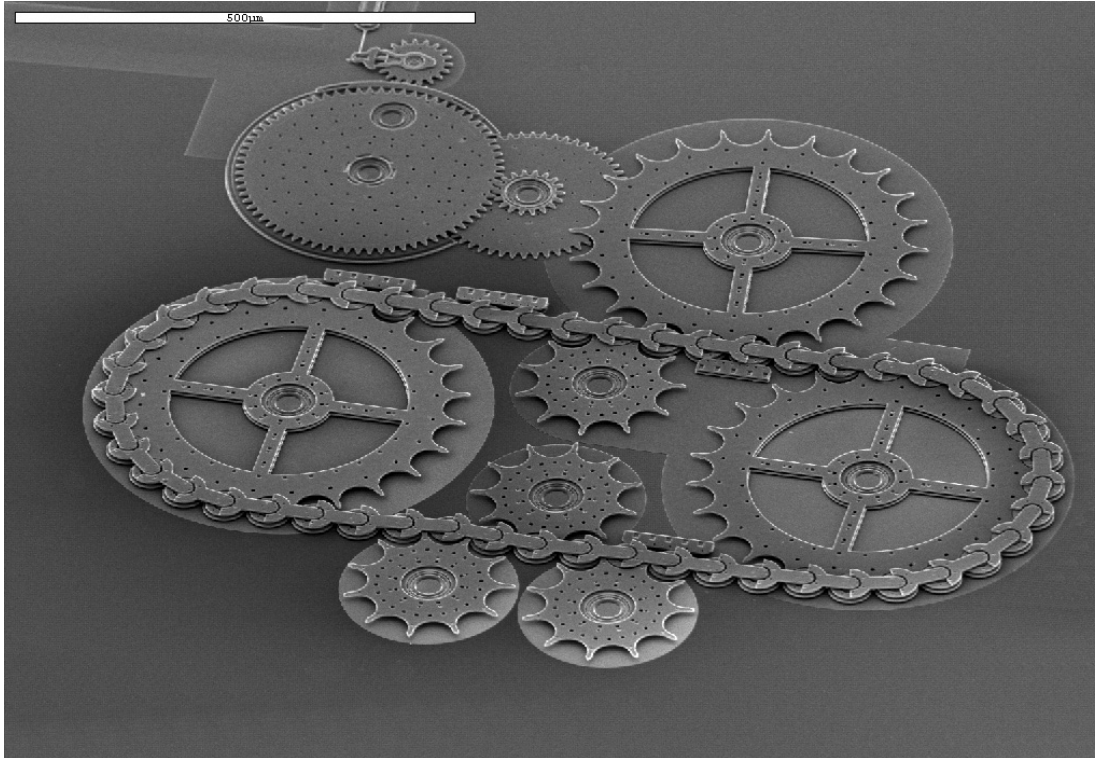
SUMMiT™ Layer Descriptions



μ Chain Layout



Sandia microChain



US Patent No. 6,328,903

<http://www.sandia.gov/media/NewsRel/NR2002/chain.htm>

Ref: Author Unknown, "Smallest microchain drive",
Sandia National Laboratories [electronic source]; cited
September 12, 2005; Available
<http://www.sandia.gov/media/NewsRel/NR2002/chain.htm>



Sandia μ Chain

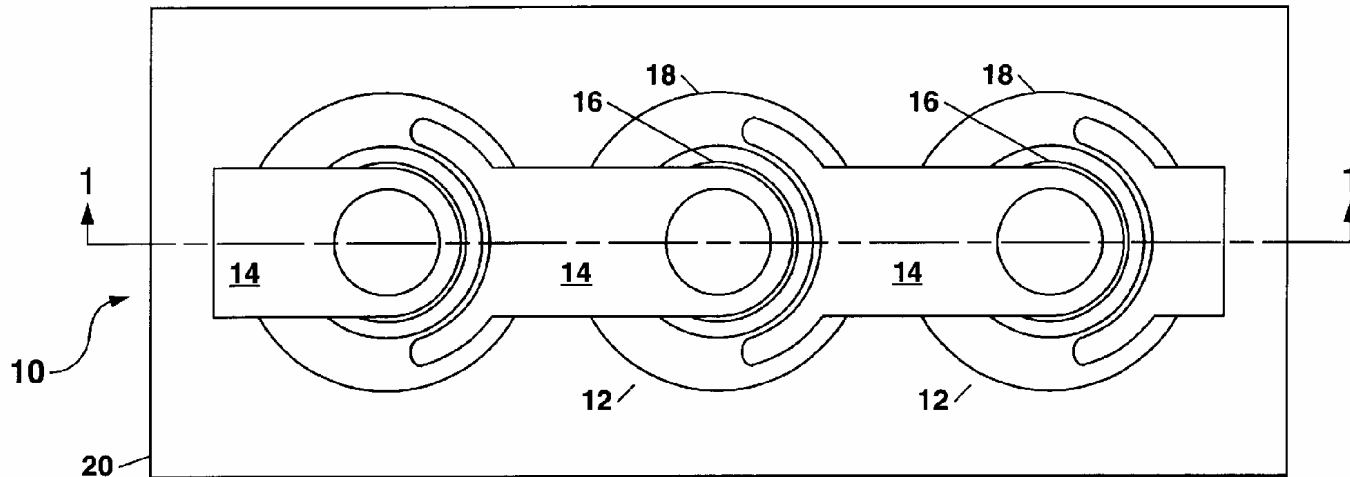
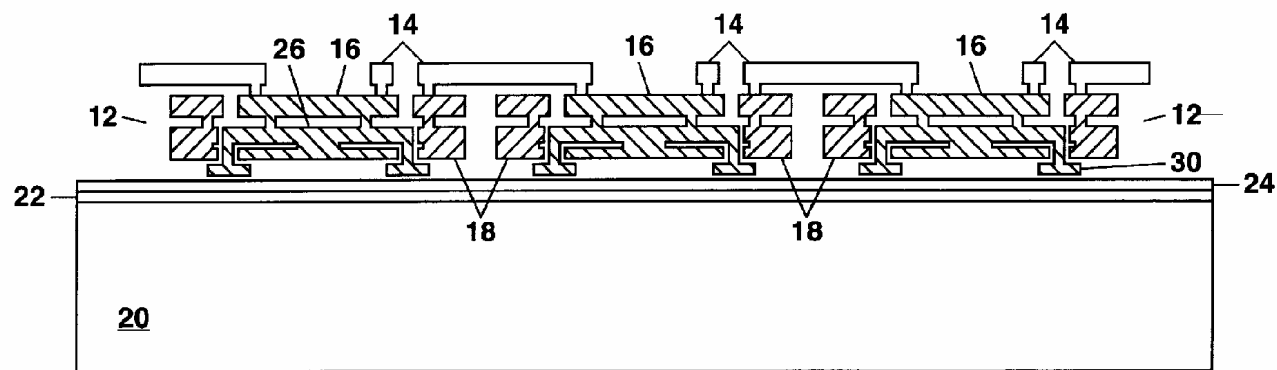


FIG. 1A

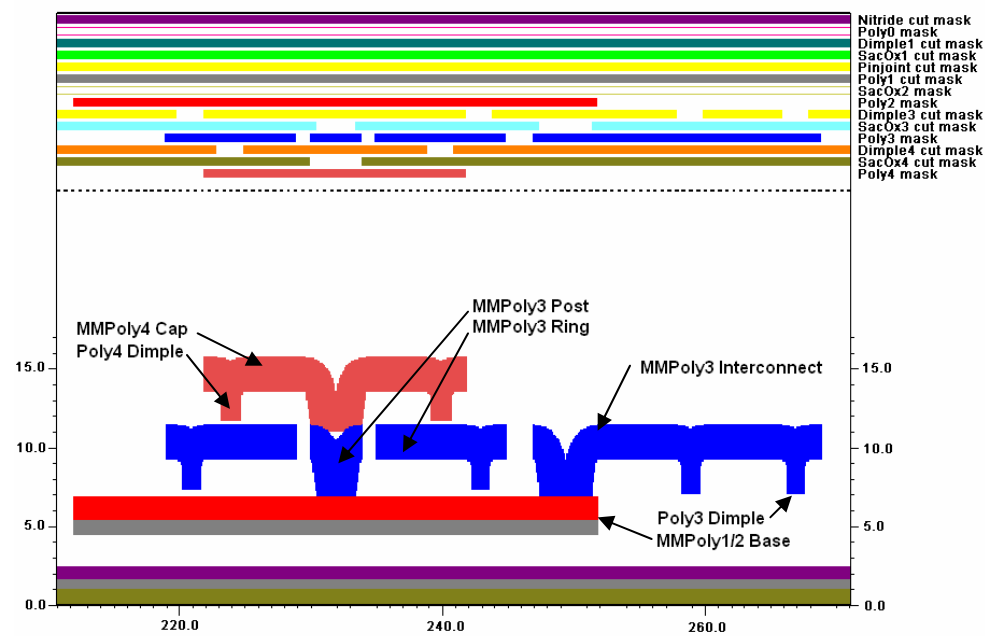
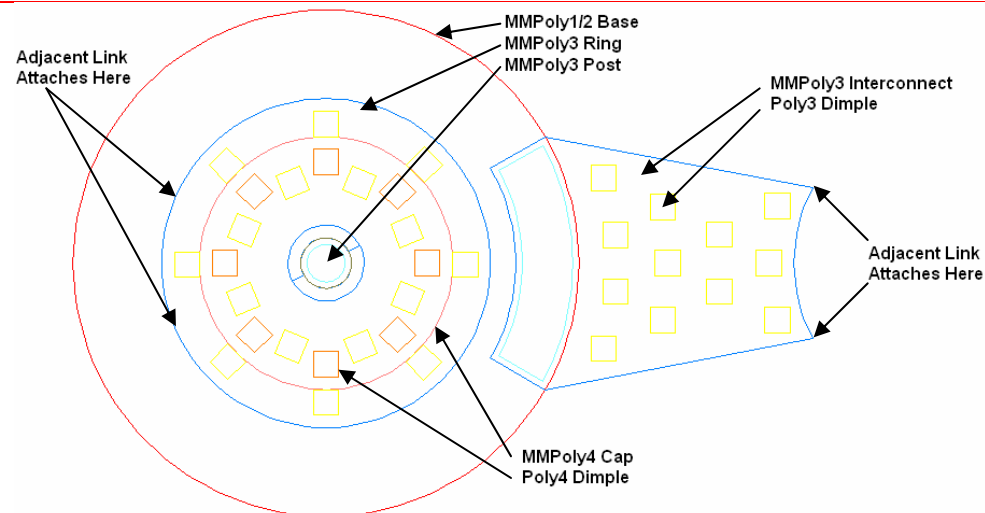


Section 1 - 1

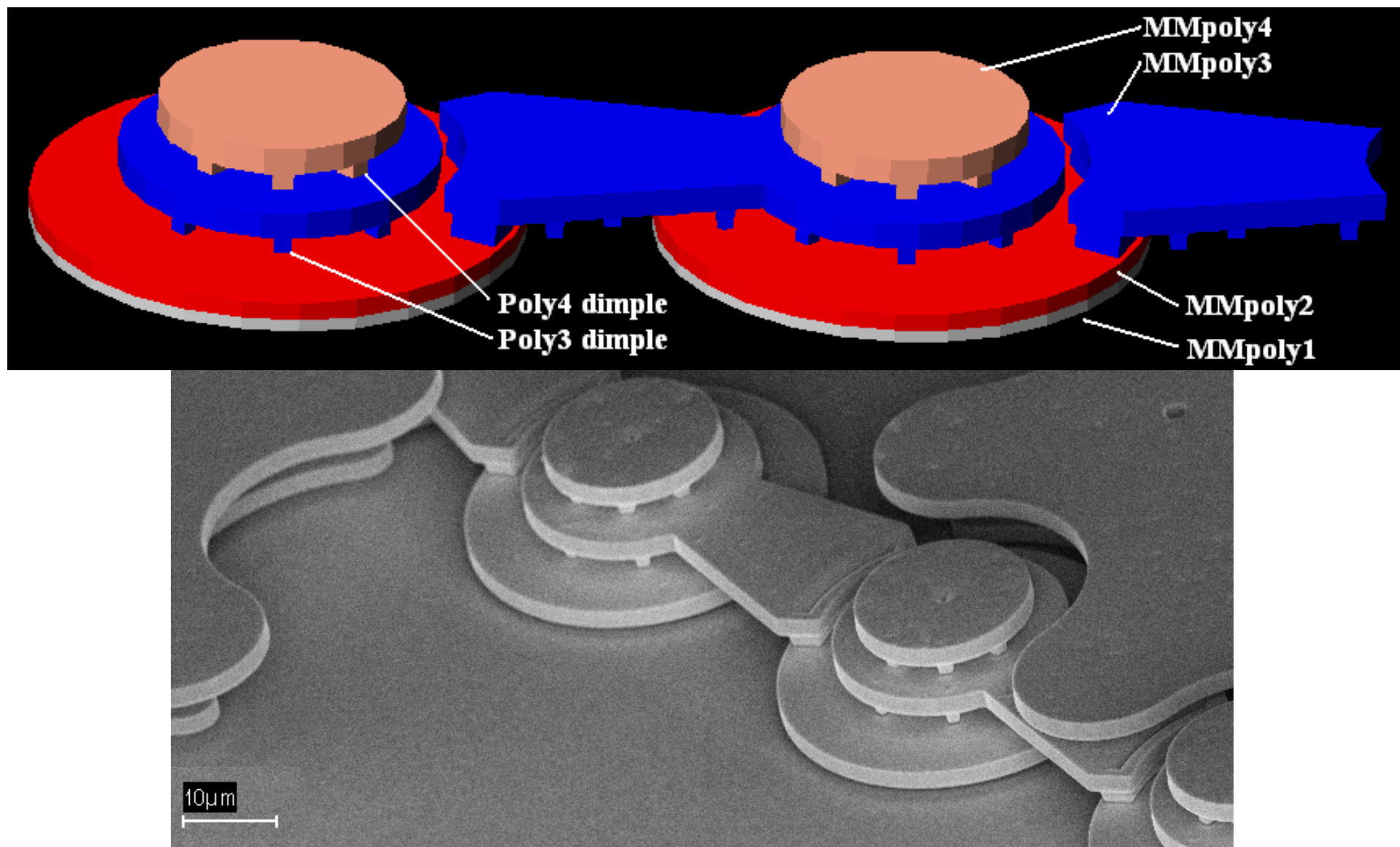
FIG. 1B

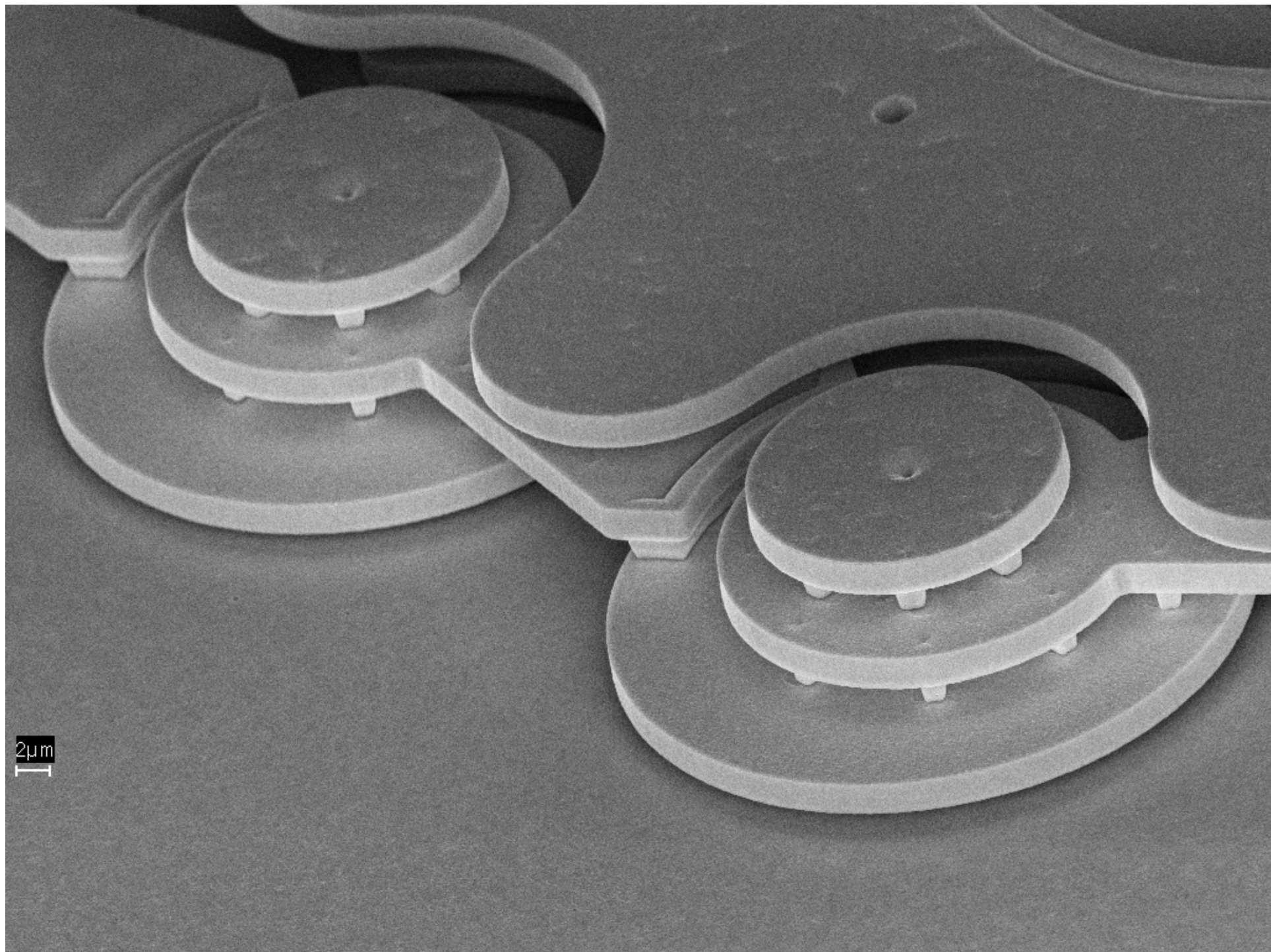
US Patent No. 6,328,903

TTU μ Chain Links

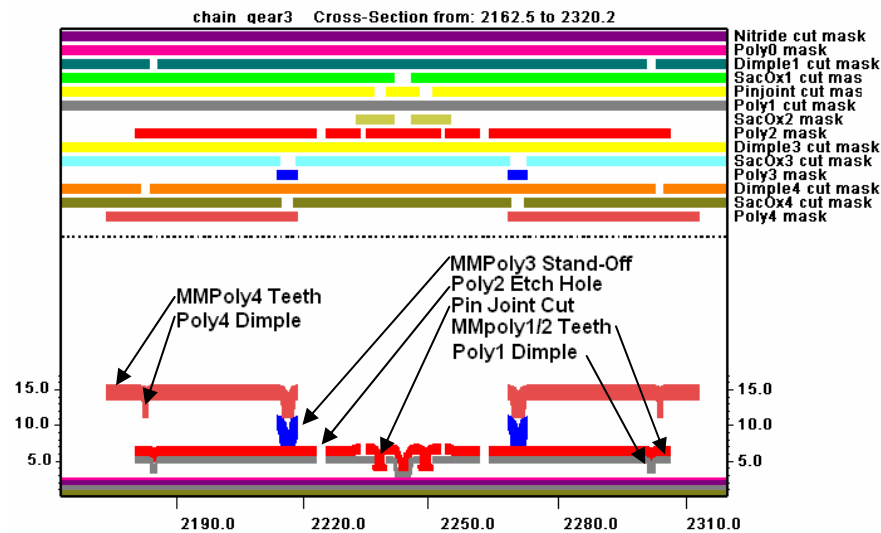
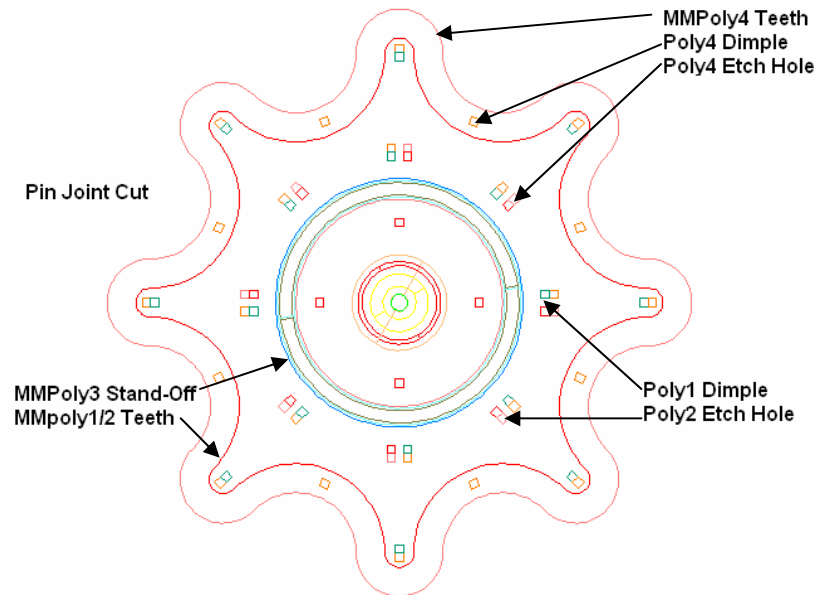


TTU μ Chain Links

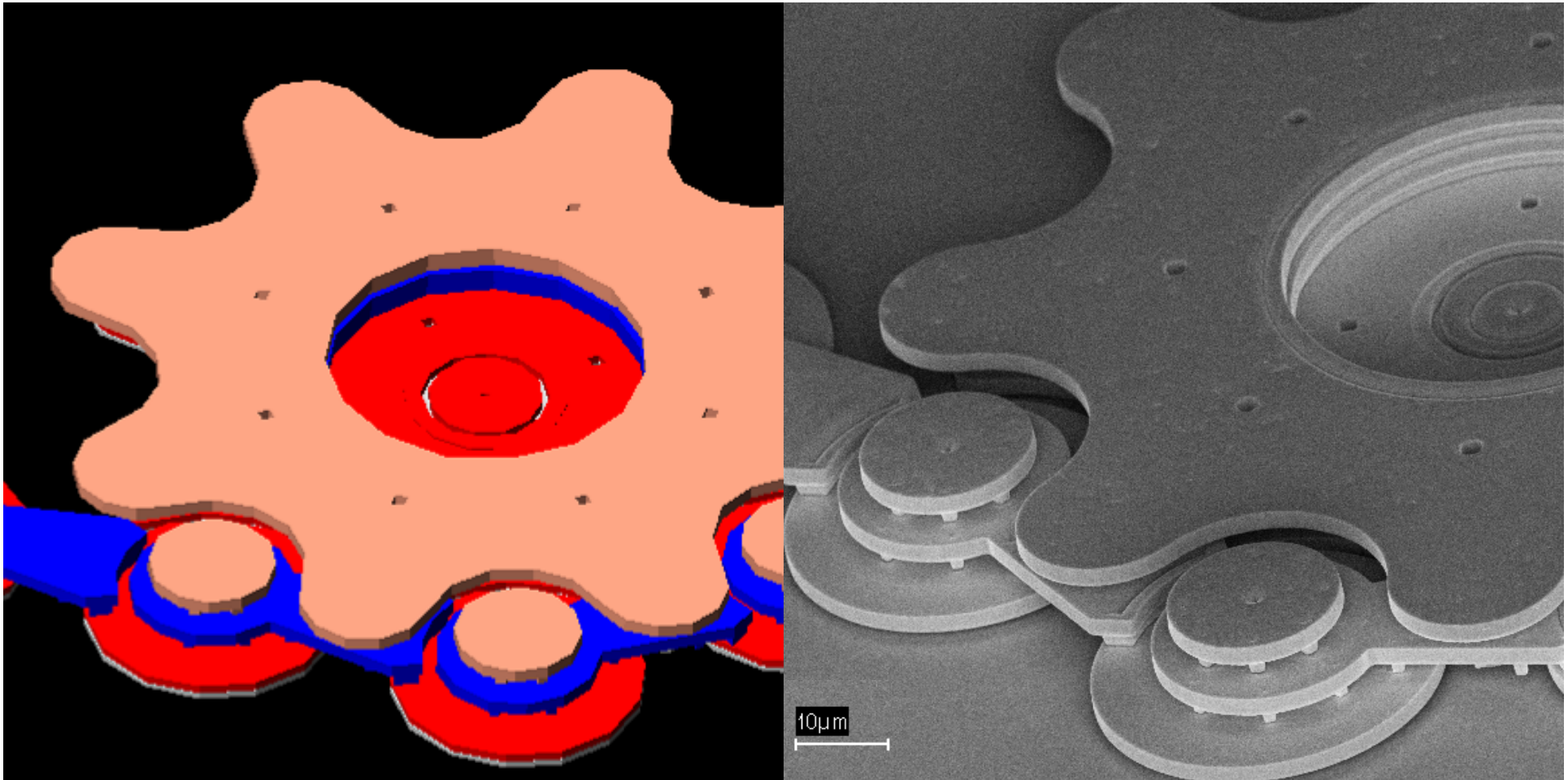




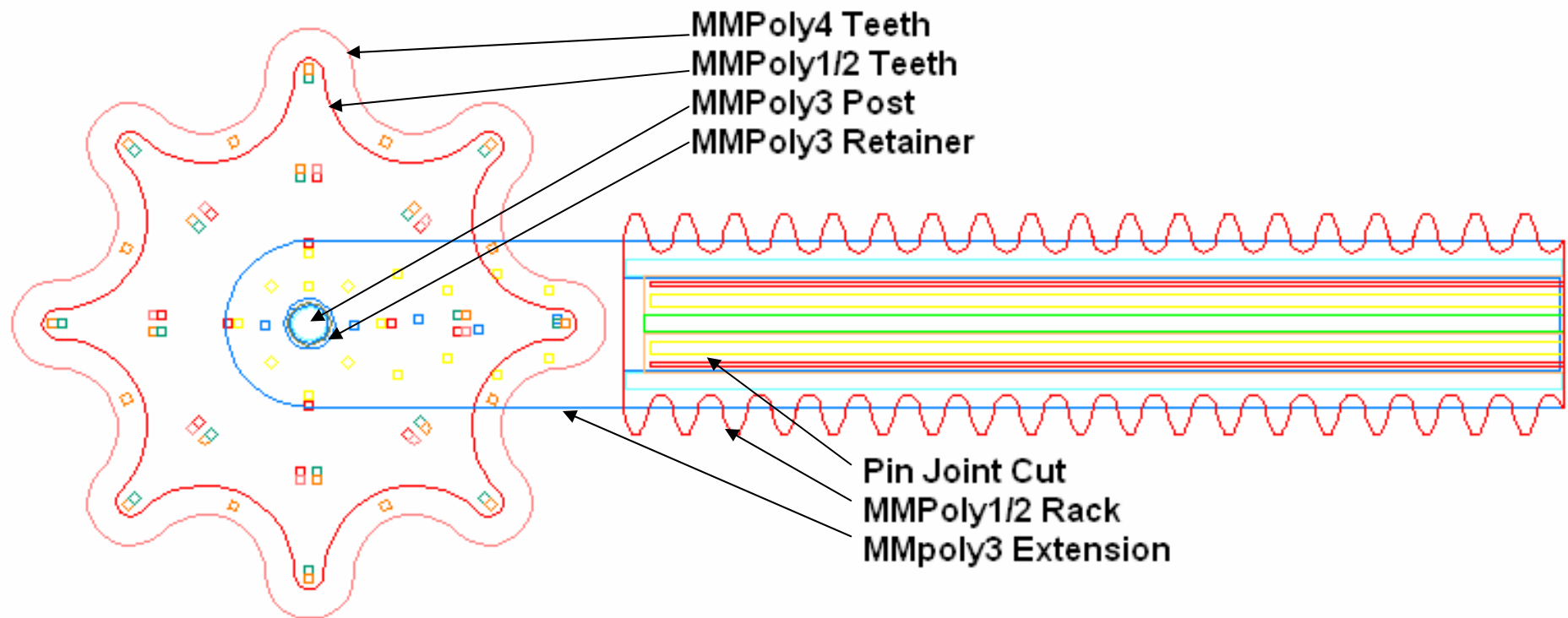
TTU μ Chain Sprocket



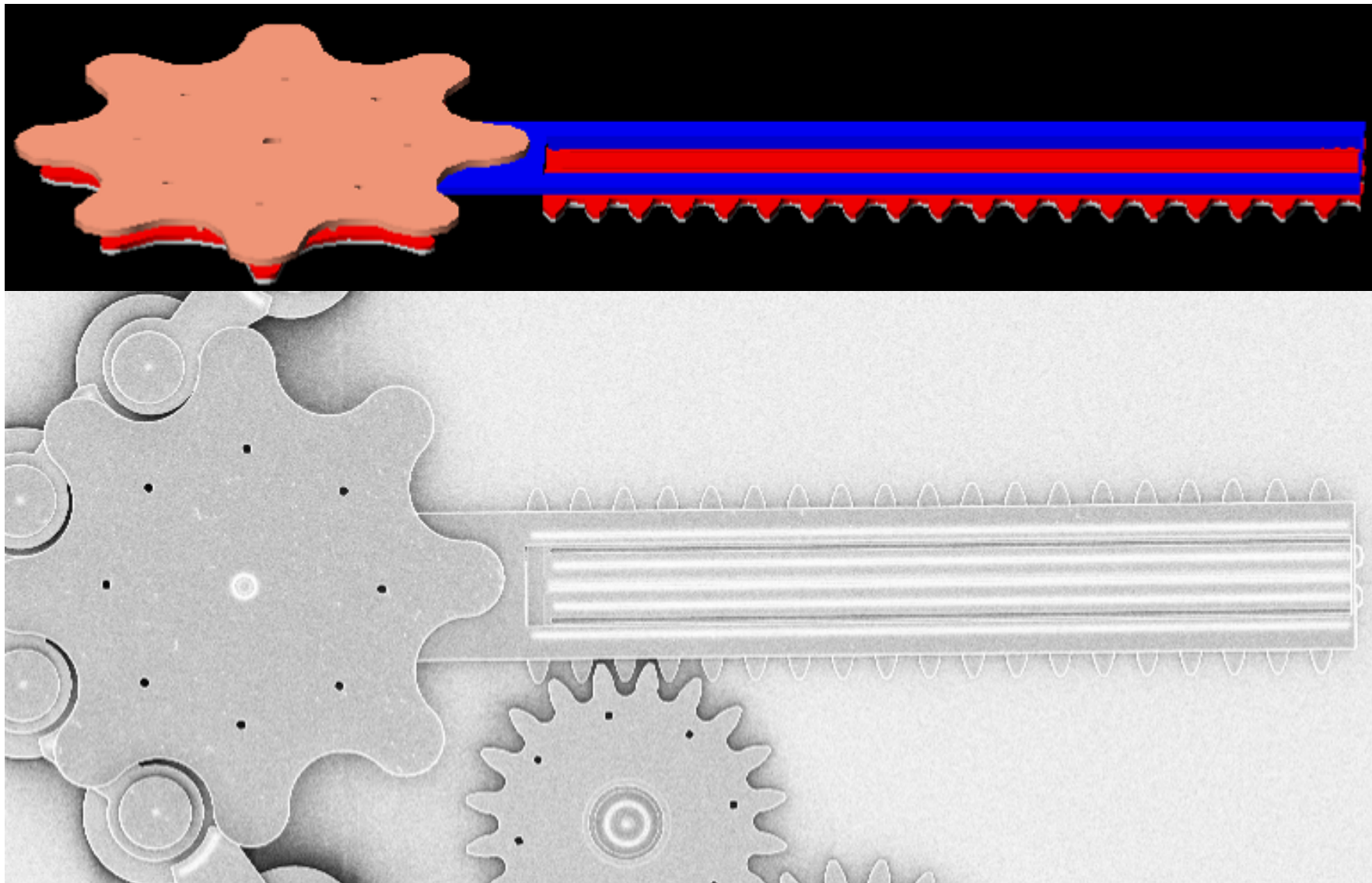
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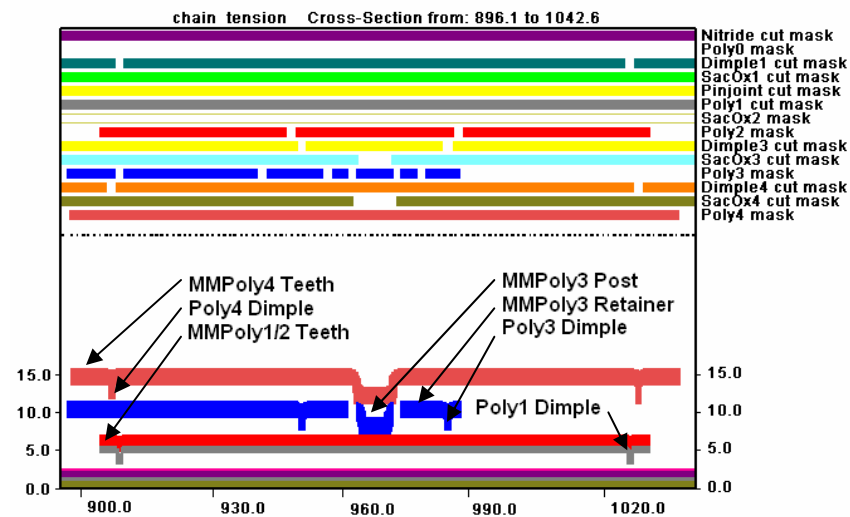
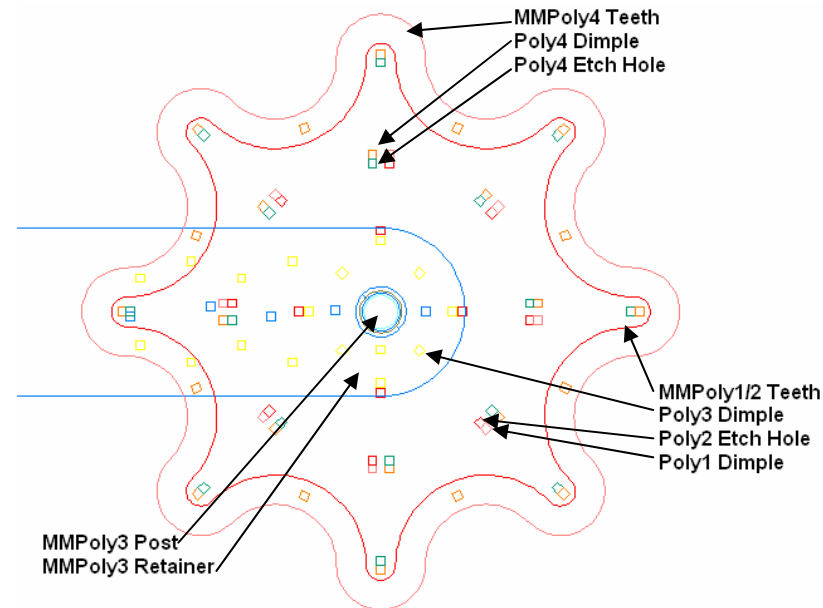
TTU μ Chain Tensioner



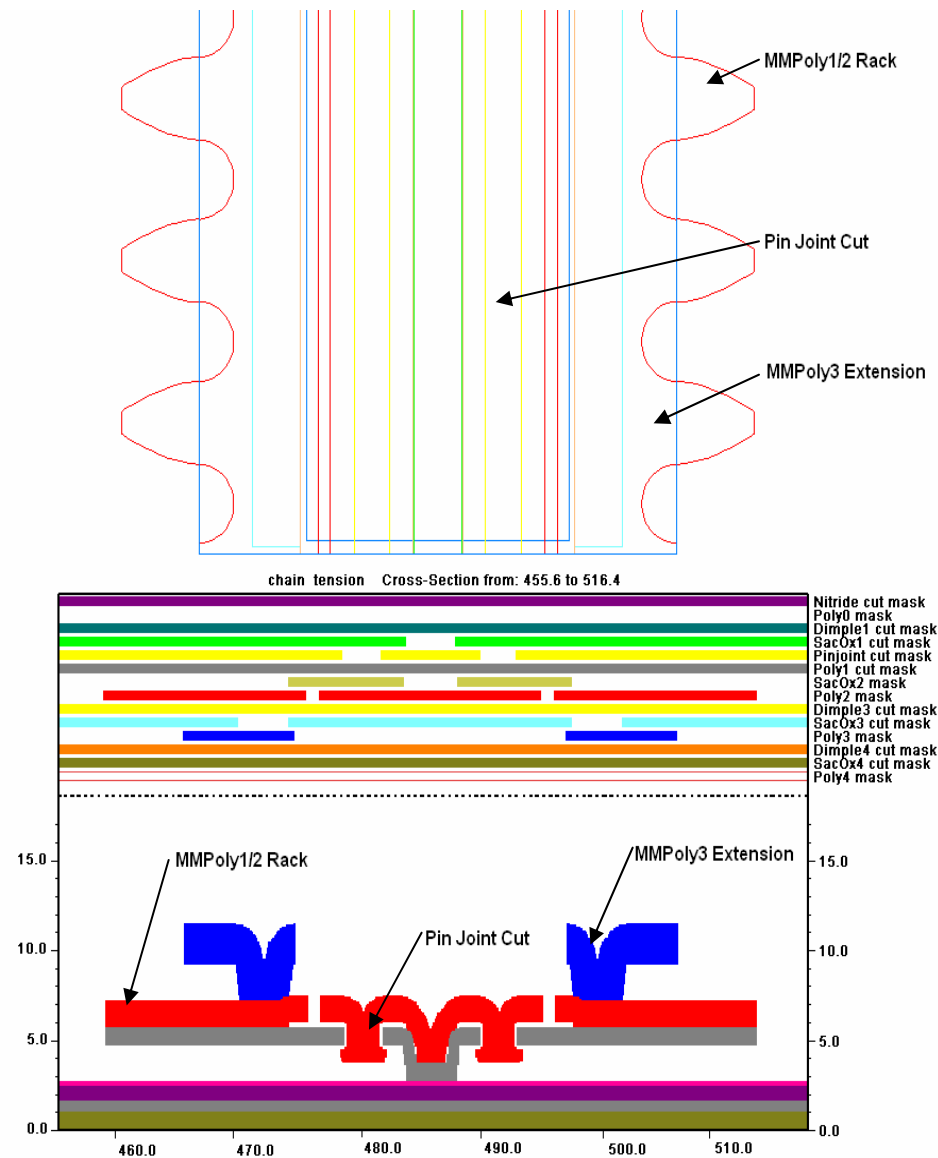
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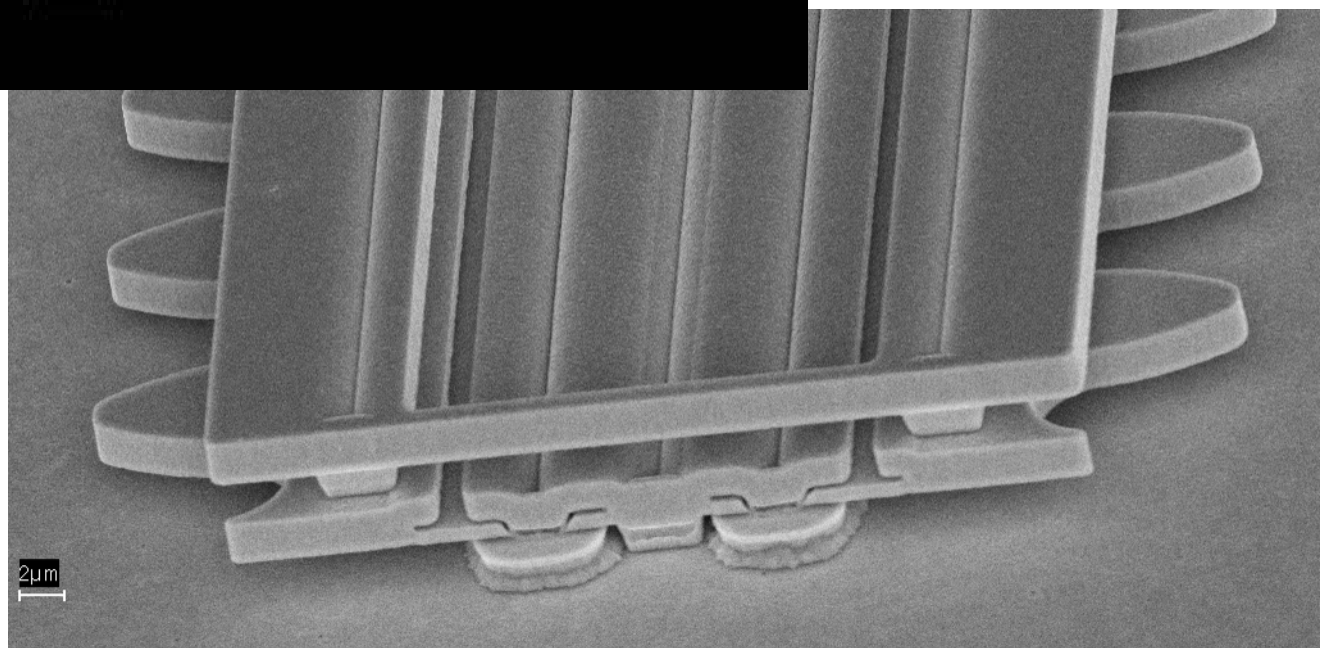
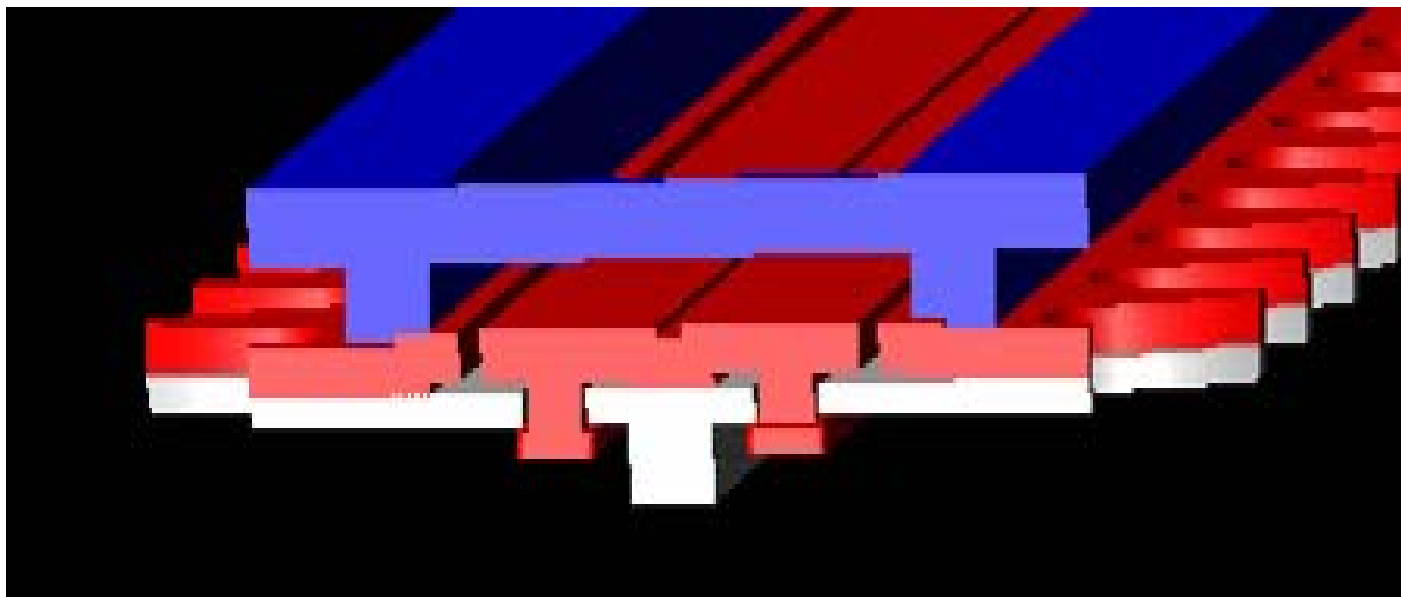
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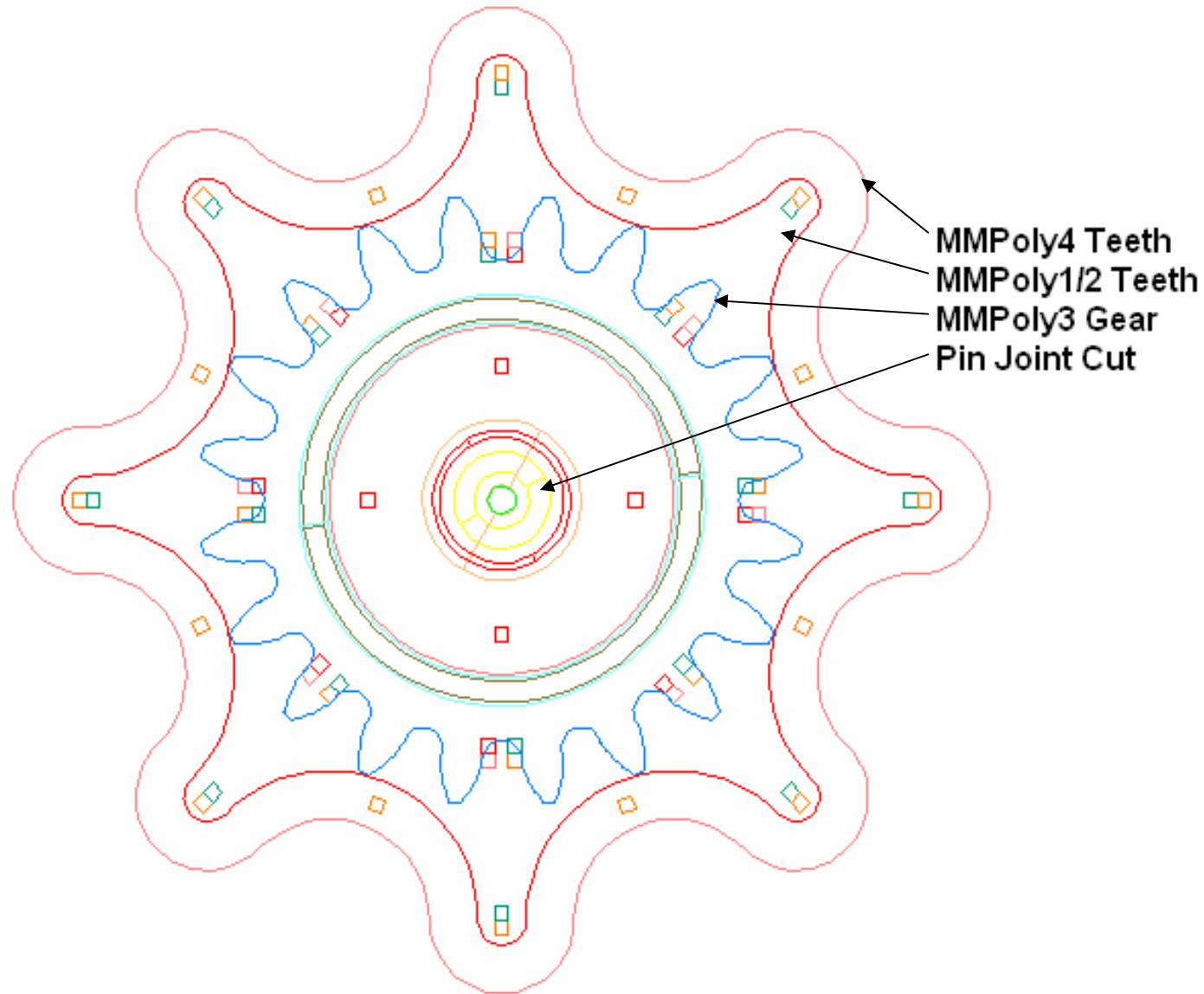
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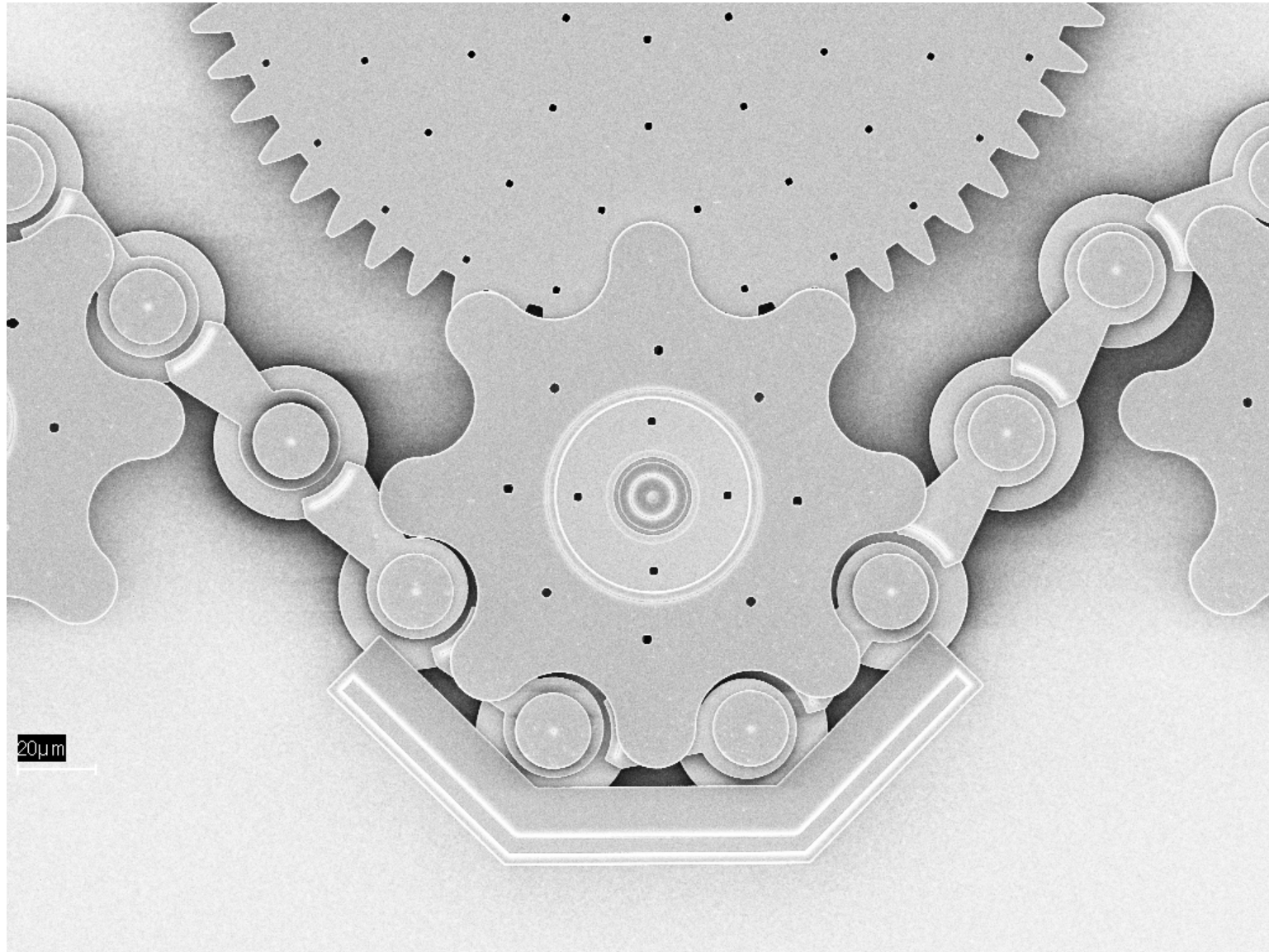
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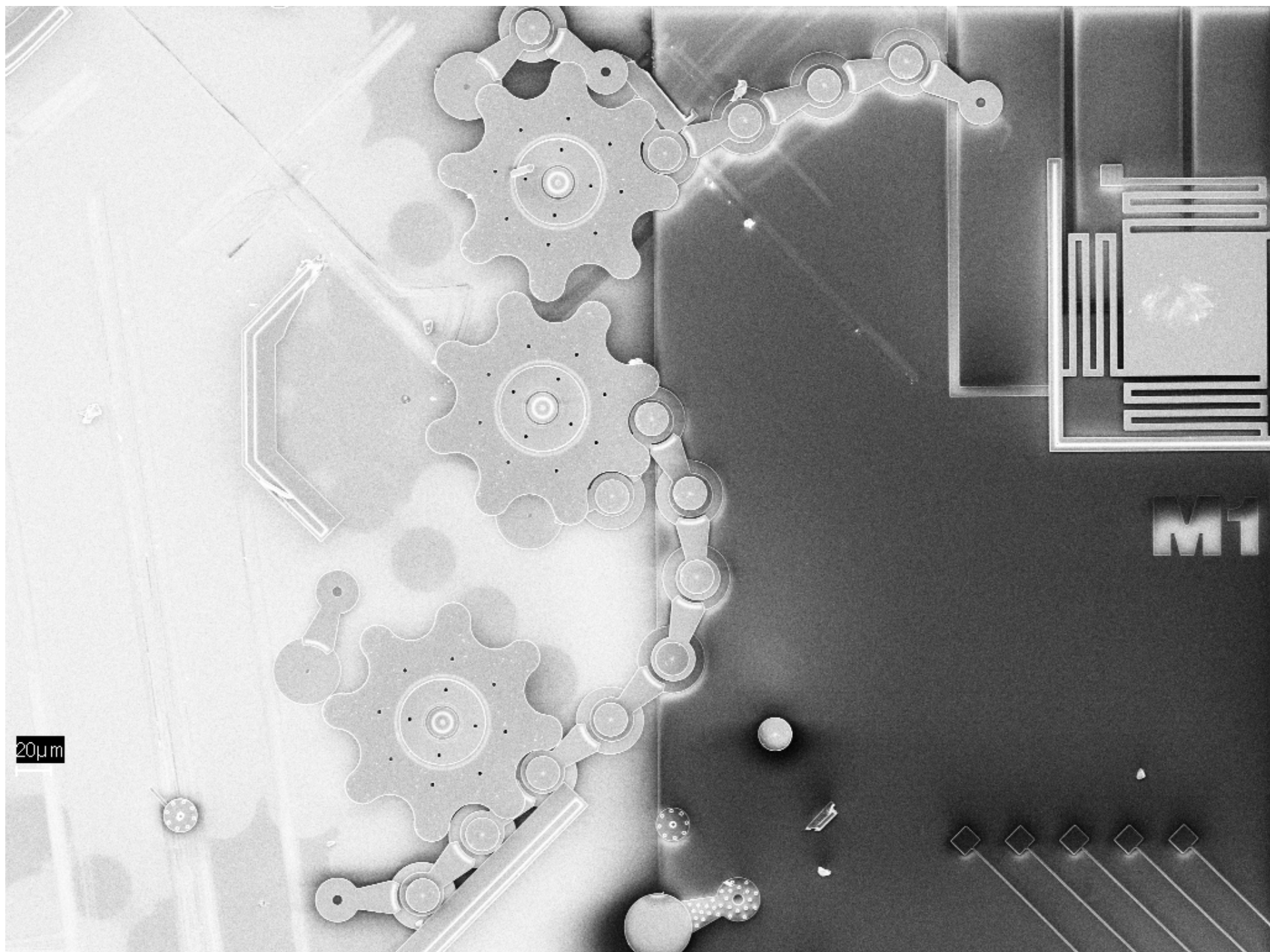


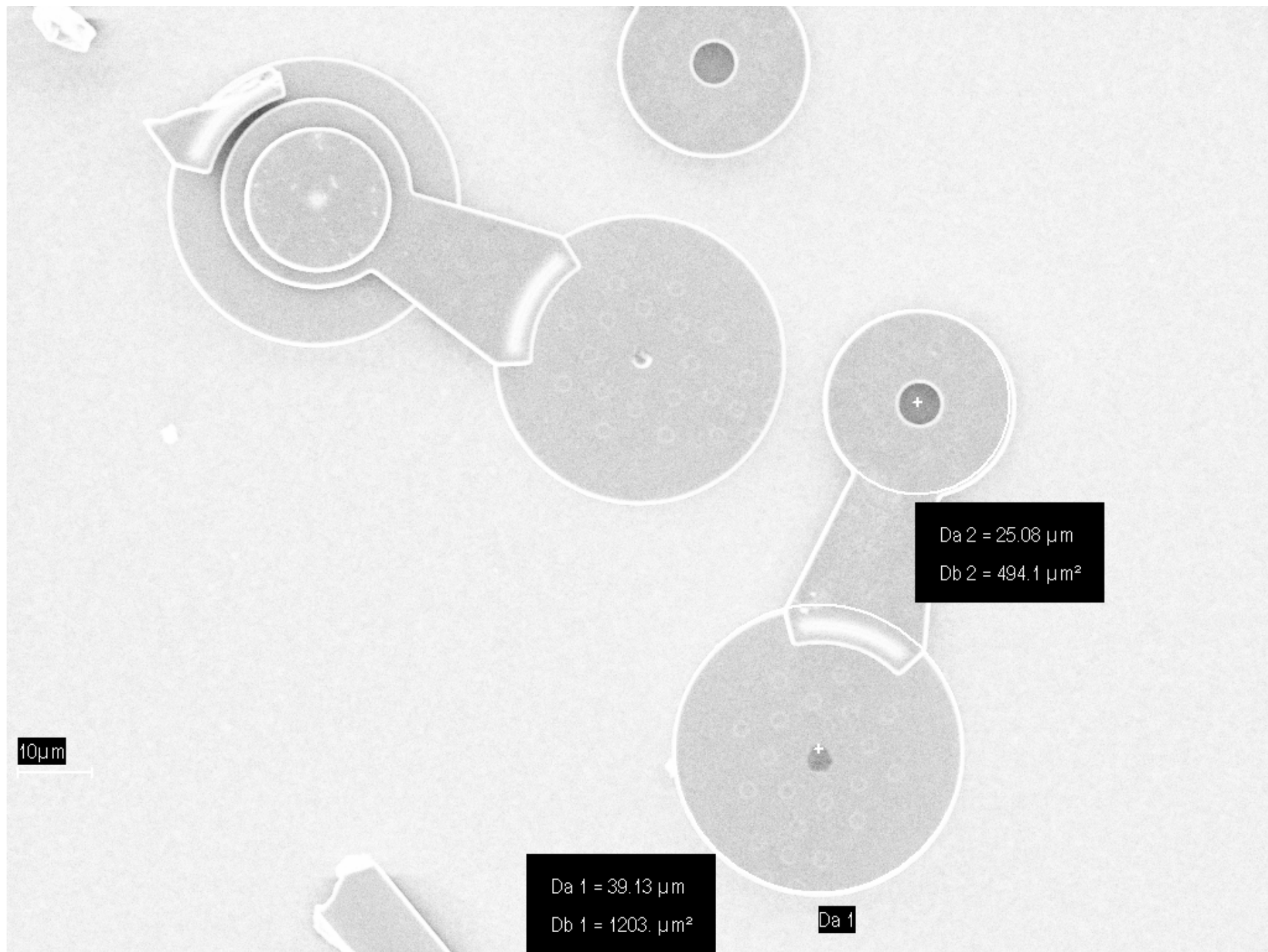
TTU μ Chain Drive Sprocket

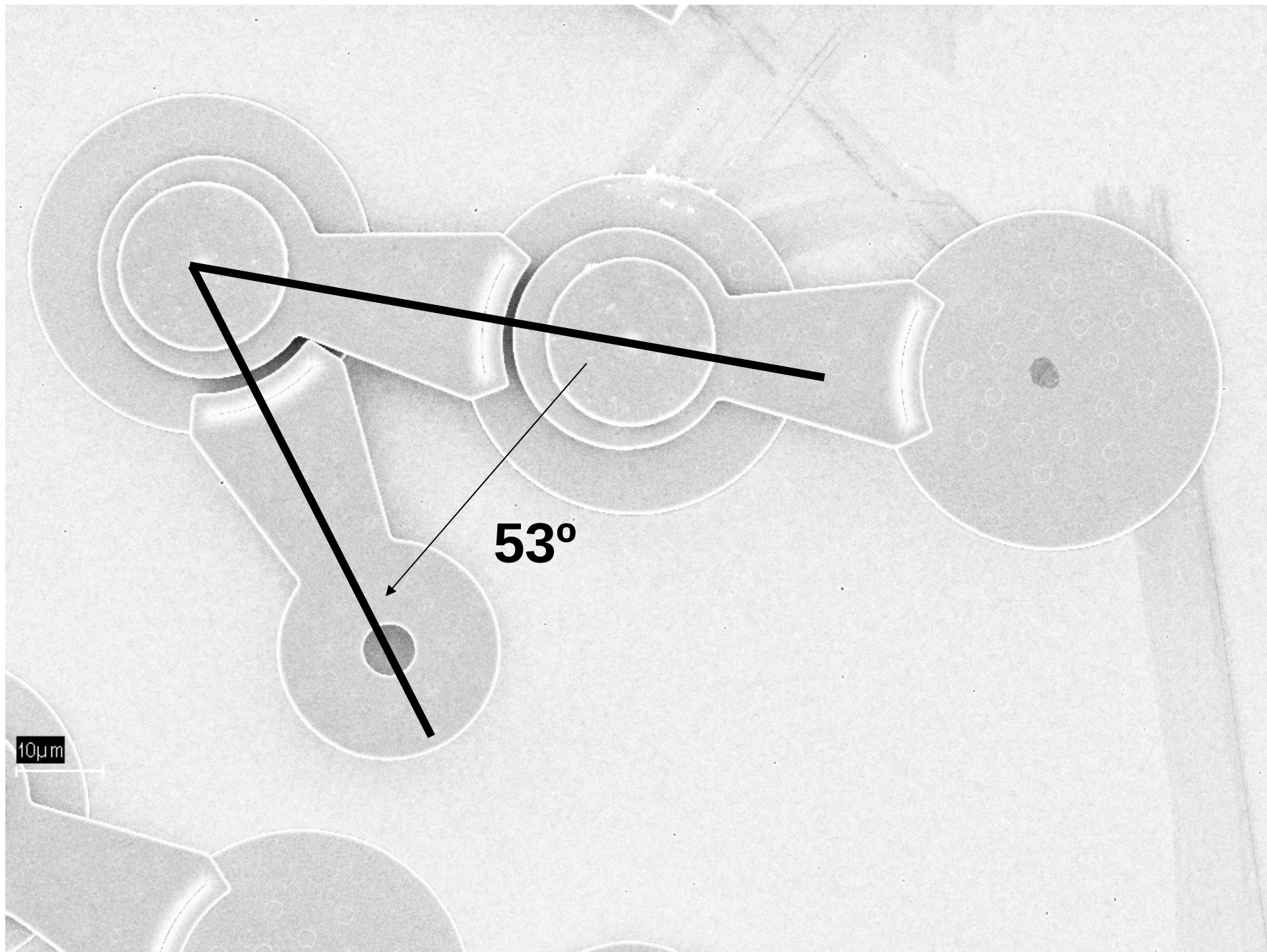


TTU μ Chain Drive Sprocket









Conclusions and Future Work

- Chain links fabricated and move exactly as designed
- Sprockets spin
- Need to run TRA's at higher voltages



Acknowledgements

- **Texas Tech University - Teaching Learning and Technology Center Grant**
- **Sandia MESA Group**