CMI

TSUCHIYA LAB.

[Machining/Assembly Technologies for Highly Efficient Production]

Department of Mechanical and Biofunctional Systems

Applied Micro Manufacturing

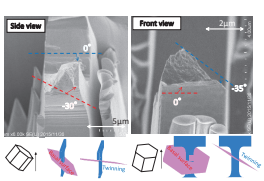
Department of Mechanical Engineering

http://cossack.iis.u-tokyo.ac.jp/top-j.html

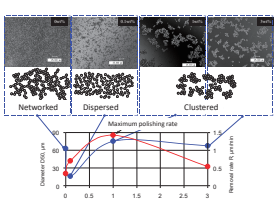
Machining/Assembly Technologies for Highly Efficient Production

Our laboratory develops machining technology that creates a shape, and assembling/ implementation/inspection of the components technology for from micro-scale to macro-scale devices.

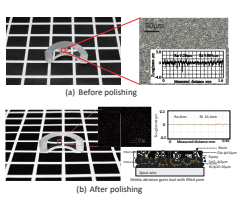
- ◆Advancement of aircraft manufacturing technology
- ◆Optimization of the Sharpening Method for Improvement of Cutting Performance
- ◆Development on fixed abrasive tool with continuous pore
- ◆Study on characteristics of polishing slurry with microscopic observations
- ◆Micro-scale fatigue test system with real-time observation
- ◆High-quality and low-cost production system using Mahalanobis-Taguchi method
- ◆Quantitative analysis of spatial properties of highly-skilled handwork
- ◆Micro/Nano structures on the roll mold surface by composite plating



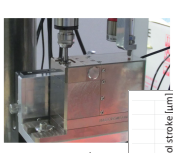
Fatigue test under real-time observation.



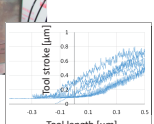
Relationship between polishing rate and dispersibility of abrasive grains in polishing slurry.



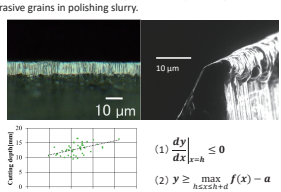
Fixed micro abrasive tool with super long life.



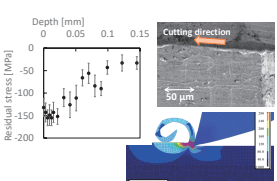
contact type tool length measuring system



Repeated test of tool contact detection



Relationship between the edge shape of a cutting blade and its cutting performance.



(Upper left) Residual stress distribution of the workpiece, (Upper right) Crystal structure inside, (Lower right) Stress distribution analysis result during cutting