

- [04] 2020/11/24-26@Kobe in Japan (Online)  
18th International Conference on Precision Engineering (ICPE2020)  
**Calibration of rotary encoder mounted on non-contact three dimensional nano-profiler using normal vector tracing method**  
○[K. Hashimoto](#), [M. Ikuchi](#), [T. Ashizawa](#), [K. Endo](#)
  
- [03] 2020/11/24-26@Kobe in Japan (Online)  
18th International Conference on Precision Engineering (ICPE2020)  
**Aspheric optical element testing with the three-dimensional nano-profiler based on normal vector tracing method**  
○[T. Ashizawa](#), [K. Hashimoto](#), [M. Ikuchi](#), [J. Kang](#), [K. Endo](#)
  
- [02] 2020/10/6@PTB, Deutschland (Online)  
Euspen 2020  
**Measurements of freeform surfaces with three dimensional nano-profiler based on normal vector tracing method**  
○[T. Ashizawa](#), [K. Endo](#)  
【Oral Presentation Award】
  
- [01] 2020/8/25-17@San Diego, CA in USA (Online)  
SPIE 2020  
**Uncertainty of figure error measurement by non-contact three dimensional nano-profiler using normal vector tracing method**  
○[K. Hashimoto](#), [M. Ikuchi](#), [K. Endo](#)