

Name OTSUBO Tatsuki	Job Title Assistant Professor	Area of Expertise Precision Engineering, Optical Measurement
1. Main Research Topics ① Development of an On-Machine Non-Contact Shape Measurement System On-machine measurement is a key technology that enables both high precision and high efficiency in machining, and it plays a critical role in the full automation of machining processes. However, because such measurements are performed using the spindle of the machine tool, motion accuracy tends to degrade during high-speed scanning. This degradation adversely affects measurement accuracy and limits the potential for improving measurement throughput. In this study, we developed a laser displacement sensor for on-machine measurement that incorporates the optical skid method, which effectively eliminates the influence of vibration and motion errors. ② Development of an In-Line Non-Contact Film Thickness Measurement System We have developed a device that can measure the film thickness of paint surfaces that are still wet immediately after painting. The main feature of this measuring device is that it can accurately measure film thickness even when the object being measured is shaking, by eliminating the effects of the shaking while the object is suspended during painting. Fig. On-machine measurement sensor		
2. Keywords Production engineering, 3D shape measurement, on-machine measurement, micromachining		
3. Remarks and Websites • We conduct research and development of manufacturing technologies (measurement and machining) that meet the needs of production sites. • We specialize in developing in-line and on-machine measurement technologies. • We are engaged in the development of measurement systems that are robust against external disturbances such as vibrations within factories. • We can design custom-made measurement systems tailored to your specific requirements. researchmap: https://researchmap.jp/otsubo		