

Special Issue

Ultraprecision Machining Technology—Manufacture and Metrology of Structured and Freeform Surfaces for Functional Applications

Message from the Guest Editors

Structured and freeform surfaces with functional characteristics have been widely used in many mission-critical applications. These surfaces have non-rotational symmetry with sub-micrometre form accuracy and nanometric surface finishing. Due to their geometrical complexity and high precision requirements, this leads to numerous research challenges in different fields including ultraprecision machining technologies, cutting mechanics, surface generation mechanisms, novel machine design, accurate control of the machining process through modelling and simulation of ultraprecision machining processes, error compensation, freeform measurement and on-machine metrology. This Special Issue aims to provide a good collection of the latest research results and findings in design, ultraprecision machining and measurement of structured and freeform surfaces and their functional characteristics. This Special Issue will also contain selected papers from the ASPEN/ASPE Spring Topical Meeting 2017 (www.aspen-aspe2017-topical.com/index.php) which will be held from 14–17 March 2017, in Hong Kong, China.

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