An international comparison of surface texture parameters quantification on polymer artefacts using optical instruments - DTU Orbit (12/01/2019)

An international comparison of optical instruments measuring polymer surfaces with arithmetic mean height values in the sub-micrometre range has been carried out. The comparison involved sixteen optical surface texture instruments (focus variation instruments, confocal microscopes and coherent scanning interferometers) from thirteen research laboratories worldwide. Results demonstrated that: (i) agreement among different instruments could be achieved to a limited extent; (ii) standardised guidelines for uncertainty evaluation of areal surface parameters are needed for users; (iii) it is essential that the performance characteristics (and especially the spatial frequency response) of an instrument is understood prior to a measurement.

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