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The evaluation of laser cleaning of silica nanowires

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The aim of this work is to investigate the laser cleaning of contaminants from surfaces of silica nanowires. Experimental parameters affected particle removal were explored using pulsed Nd:YAG laser radiation at a wavelength of 1064 nm. The laser beam was focused and scanned across the surfaces of the nanowires. The interaction between laser radiation and a certain thickness in the contaminant layers was analyzed. The results suggest that low laser fluences allow greater control over the removal depth reducing the risk of damage. The cleaning efficiency was determined. The laser cleaning technique can open up completely challenges in applications of nanophotonics.

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