

UNIVERSITI TEKNOLOGI MARA

**PMMA MICROFIBER COATED WITH ZNO
NANOSTRUCTURE FOR THE MEASUREMENT OF
RELATIVE HUMIDITY**

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ABSTRACT

Novel designs of PMMA microfibers coated with zinc oxide (ZnO) nanostructure are demonstrated for the monitoring of relative humidity. Two different structures of the microfibers, namely the straight PMMA microfiber and the PMMA microfiber loop resonator (PMLR) were fabricated by using the direct drawing technique. The sensitivities of the PMMA microfibers were compared and evaluated. The results showed that the PMLR is more sensitive than the straight PMMA microfiber and the sensitivity of the sensors were further increased with the additional coating of ZnO nanostructure on the surface of the PMMA fiber.

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