

**MEASUREMENT OF THE REFRACTIVE INDEX BY USING A RECTANGULAR CELL WITH A FS-LASER  
ENGRAVED DIFFRACTION GRATING INNER WALL**

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**Abstract.**

A very simple method to obtain the refractive index of liquids by using a rectangular glass cell and a diffraction grating engraved by fs laser ablation on the inner face of one of the walls of the cell is presented. When a laser beam impinges normally on the diffraction grating, the diffraction orders are deviated when they pass through the cell filled with the liquid to be measured. By measuring the deviation of the diffraction orders, we can determine the refractive index of the liquid.

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