

**REFRACTIVE INDEX SENSITIVITY IN THINNED UV AND  
ARC INDUCED LONG-PERIOD GRATINGS:  
A COMPARATIVE STUDY**

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**ABSTRACT:** In this work, a comparative study aimed to investigate the effects of cladding stripping on the external refractive index sensitivity in tapered and UV long period gratings is presented. Here, wet chemical etching combined with microscopic analysis allow us to identify the experimental dependence of the surrounding refractive index (SRI) sensitivity on the cladding radius for both grating types. The experimental results reveal that although in both cases a sensitivity enhancement is achieved by reducing the cladding thickness, the tapered devices offer substantially a greater sensitivity gain in respect to UV written devices.