

# **Application of Mach-Zehnder interferometer based on long period grating structure for salinity measurement in water environment**

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## **ABSTRACT**

In this work we studied the behavior of an in fiber Mach-Zehnder interferometer for salinity measurements. The salt species used are KCl, NaCl e NaCOOH (organic salt) within the concentration range from 3 g.L<sup>-1</sup> to 150 g.L<sup>-1</sup>. The results are compared with traditional salinity measurement methods (conductivity and refractive index) and show that the device can distinguish and identify the concentration of each species saline.

**Keywords:** Salinity, cascade long period grating, environmental measurement, water quality