## 16:54 - Synthesis and characterization of glasses and fiber for ultrassensive magneto-optical sensors

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In view of scientific progress and the high demand for innovation in the field of magneto-optical glasses for applications in current and magnetic field sensors, we have been studying glass compositions with high concentrations of paramagnetic ions, especially those based on $Tb^{3+}$. This paper aims to show the results of a systematic study of boroaluminate glasses containing between 8 and 13% $Tb^{3+}$. The structural, thermal and optical properties will be discussed.

## 17:06 - Performance evaluation of a plastic optical fiber biosensor for the detection of *Escherichia coli* in Water

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Currently, most methods for detecting *Escherichia coli* in water require 24 to 48 hours to achieve results. For this reason, there is a growing interest in developing alternative methods that are faster, but still specific and sensitive, to replace conventional methods. Biosensors are devices that fit these characteristics, being able to perform analyses in just a few minutes, with good specificity and sensitivity to the microorganism of interest. In this study, a plastic optical fiber biosensor for *E. coli* detection in water is evaluated.

## 17:18 - Lanthanide-doped polymer end-capped fiber sensors for amino acids detection

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We demonstrate fluorescent polymer composites incorporating lanthanide phosphors for amino acids detection. Their performance as fluorescent membranes was evaluated using conventional spectroscopic tools, showing good performance for amino acids detection through UV fluorescence. The composites were then incorporated as end-caps on multimode optical fibers to explore their sensing capabilities.