Poster Presentation

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X-ray powder diffraction use in forensic analysis in Brazilian context

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The forensic analysis of evidences must be able to extract maximum of information from small quantities of samples, while preserving as much material as possible for future tests. In this case, the accuracy and speed are vital in order to obtain relevant and trustful results. Among the many types of materials that are subject of a criminal investigation, a great quantity of them can be analyzed by using the X-ray powder diffraction (XPD) technique [1] [2] [3]: inorganic, organic and metals. It's required that the material should be solid and crystalline or partially crystalline. The huge advantages lie in the fact that it is a nondestructive technique and the unique characterization is possible because each compound has its own specific pattern, like a 'fingerprint'. It was not found any publication about the use of the XPD by the Brazilian laboratories that is dedicated to forensic analysis. The aim of this work is to show the versatility of the technique and the great cost-beneficial that this technique can offer. Many Brazilian laboratories situated in universities possess the equipment and can eventually help the investigations along with the police. This partnership can provide advances in technology and can encourage the fundamental and applied science students to contribute with the Forensic Science in Brazil, increasing the quality and variety of the national scientific research.

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