



Reva

Educational Raman

Raman Spectroscopy Use with Solids Within Forensics

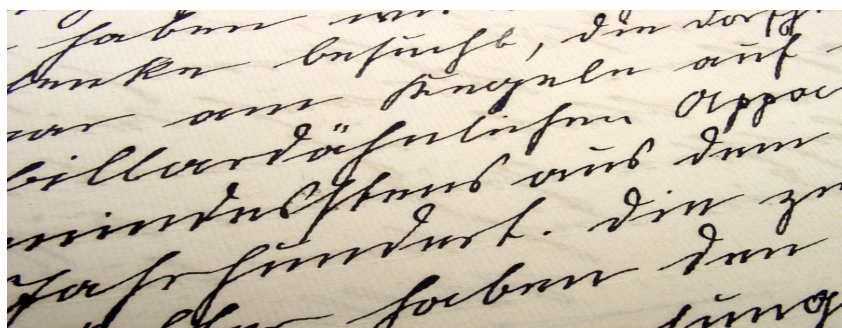
Raman spectroscopy can be used to analyze inks and blood to help identify their origination. This allows the detection of forgeries and a better understanding of specific crime scenes.

Raman spectroscopy is often used in the analysis of solids, particularly for the use of forensics. Forensics is an area where the non-destructive analysis of samples is vital, as the preservation of their integrity is key. This is specifically true for ink analysis when the question of forgery, additions, or alterations to a document is presented.

Ink is made of dyes, pigments, and solvents, and each ink has its unique chemical mixture¹. Because each ink is complex and often exclusive, meaning composition overlap is highly unlikely to occur, forensic technicians can use Raman spectroscopy to prove if the ink in question is legitimate². Even if the sample in question looks identical to the reference, Raman will allow for conclusive results regarding its validity. This is especially important when the ink sample is printed ink, as the composition of printer ink is largely unknown because manufacturers are not required to disclose the information³.



Raman spectroscopy can also be used to identify drugs within the human system. This method has been utilized to detect trace amounts of cocaine within saliva⁴. It also has been helpful in determining the types of blood found at crime scenes, allowing forensic technicians to distinguish human from structurally similar animal blood⁵.



References

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