



Questioned Documents Section – 2005

J16 The Use of Fiber Analysis When Examining Questioned Documents

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The goal of this presentation is to assist document analysts and criminalists in learning what information can be derived from examining the fiber types in paper. The attendee will better understand the possibilities and limitations in using a paper fiber analysis.

This presentation will impact the forensic community and/or humanity by showing examples of fiber analysis techniques will allow the document analyst to have additional useful methods in evaluating paper.

When examining questioned documents, it may be advantageous to examine the fiber types that make up the papers. The use of Fiber Analysis can provide information to show a document is consistent with or significantly different from other paper. These identifications of certain papermaking fibers can be used in some situations for the dating of the documents or for comparison with other associated papers.

The examination of the fibers is a destructive test, but can be done after most or all of the other forensic tests have been completed. Only a relatively small area of a document or a paper in question needs to be examined to determine the fiber types. Usually several paper punch-sized pieces can be used for the examination. The required equipment is a transmitted light compound microscope with objectives of 4X, 10X, and 40X magnification. Any magnifications close to these are also acceptable. Other equipment to enhance the analysis may involve a stereoscope, an ultra violet light source, a light box, and chemical reagents for spot staining.

This presentation will feature some of the methods used to examine the fibers present in questioned documents and other paper based products. Examples of fiber differences in papers will be viewed under the microscope. Some examples of how Fiber Analysis examinations have been used to compare and evaluate documents will be discussed. Researchers will also discuss some of the limitations associated with this type of analysis, as well.

Fiber Analysis, Paper, Microscope