



J3 The Significance of Electrostatic Detection Apparatus (ESDA) in the Determination of Tampering

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After attending this presentation, attendees will better understand the importance of ESDA in determining alleged tampering in cases in which the conventional use of a video spectral comparator does not produce promising results sufficient to prove alleged tampering.

This presentation will impact the forensic science community by demonstrating the use of ESDA as a significant tool in the determination of tampering in cases in which no significant visually apparent signs of tampering were present.

Background: One of the most demanding fields of forensic document examination is proving alleged tampering in a disputed document using a variety of techniques. When examining a piece of writing for alleged tampering, one of the items the examiner looks for is any difference in the writing instrument/ink used. This will consequently result in one of two findings: the writing instrument(s) used in the area of the questioned writing is similar/same, or more than one (different) writing instrument has been used. In the latter scenario, the interpretation is usually easier, whereas in the former, there may be no tampering or tampering using the same or similar writing instrument. The examination may become complicated when the suspected tampered area of writing involves writing instruments having ink composition that is similar enough to evade differentiation by commonly used non-destructive methods. Such disputed documents prove to be more demanding for the document examiner, and the use of alternate techniques accompanied by problem-solving approaches becomes essential.

Method: This presentation discusses a case that involves successful detection of tampering (alteration) in a disputed notebook. The case presented a common problem involving the use of the same or very similar inks/writing instruments for tampering that the conventional use of a Video Spectral Comparator (VSC6000) was unable to prove tampering in the disputed notebook. Based on preliminary optical examination of the disputed entry, the examiner was sure that “something” was suspicious about the questioned entry in the disputed notebook and continued to investigate. The questioned entry was also examined from the rear using a VSC6000 to discover any information, but resulted in failure. At last, the examiner processed the page underneath the disputed page of the notebook by using ESDA². Use of ESDA² resulted not only in a number of findings sufficient to prove tampering in the questioned notebook but also provided probative evidence to the investigation.

Conclusion: Use of ESDA² seems to be an ideal technique in cases in which no significant visually apparent signs of tampering are present. Tampering (alteration) done with the same and/or a similar type of ink/writing instrument but lacking normal and natural writing flow, consistent writing pressure, and involving suspicious pen lifts may be successfully revealed by using ESDA².

Tampering, ESDA, VSC