

Spectral Analysis of Canadian Currency

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EXECUTIVE SUMMARY

With the introduction of sophisticated scanners, colour photocopiers and ink-jet printers in the early 1990s there was a dramatic change in counterfeiting technology. Counterfeits account for a substantial value of the banks notes in circulation. For this study we chose a novel approach to counterfeit analysis focusing on how the banknotes – both counterfeit and real – reflect specific wavelengths of visible and near-infrared light. These spectral signatures were compared for the \$5, \$10 and \$20 Journey series notes and the \$20 Birds of Canada series. For all denominations the spectral signatures were found to be significantly different between the counterfeits and the real notes at both 95% and 99% confidence, and therefore this may be a possible method to use in counterfeit detection.