Visual Color Comparisons in Forensic Science

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ABSTRACT: Color is used extensively in forensic science for the characterization and comparison of physical evidence, and should thus be well understood. Fundamental elements of color perception and color comparison systems are first reviewed. The second portion of this article discusses instances in which defects in color perception may occur, and the recognition of opportunities by means of which color perception and color discrimination may be expressed and enhanced. Application and limitations of color comparisons in forensic science, including soil, paint, and fibers comparisons and color tests, are reviewed.

KEY WORDS: Brightness, chromaticity, color, color-blindness, color temperature, fibers, glass, hair, hue, metamerism, paint, reflectance, saturation, soil, spot tests, trace microanalysis.