

Abstract Submitted
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Passive bloodstains: from an impact energy to a final dried pattern¹ FIONA SMITH, DAVID BRUTIN, Aix-Marseille University — Tracking down the origin of a blood droplet present on a crime scene has become of major importance in bloodstain pattern analysis. Passive bloodstains are not yet well understood. Accordingly the purpose of this research is to provide new tools to forensic investigators in the analysis of bloodstains arising from blood droplets dripping naturally. The study aims to understand the link between the final dried pattern of a passive bloodstain and its impact energy. Currently no such tool exists, and no correlation has yet been proven. This research was therefore focusing on a new parameter, the thicker outer rim observed on the dried final pattern. To do so, we created several passive bloodstains with different impact energies. A correlation was highlighted between the inner diameter, the maximum spreading diameter, the initial diameter of a blood droplet and its impact energy. This correlation shows how the drying mechanism of a blood droplet is influenced by its impact energy as it alters the red blood cells dispersion inside the droplet. The biological deposit and the final dried pattern are subsequently modified.

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