

INFLUENCE OF SUBSTRATE ROUGHNESS ON BLOOD DROP IMPACT STAINS

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A map of passive drip stains is presented in Figure 1, the pictures of the stains are taken after drying¹. Figure 1 is therefore a visual representation showing the appearance of dried passive drip stains, from a top view, ordered according to their impact velocities and the roughness properties of the real surfaces. The surfaces correspond to those often encountered on a crime scene.

The influences of roughness and velocity on splashing and deformation of drip stains will be examined in detail. Deformation and splashing are still visible after drying. The bulging outer rim is also visible on the dried drip stains, whereas it was not visible when the stains are photographed before drying. This map shows all the noticeable features resulting from physical mechanisms and could therefore be used as a tool to classify dried drip stains patterns found on a crime scene. By photographing drip stains found on a crime scene an approximative height of fall of those stains could be deduced with a protocol that will be described during the presentation.

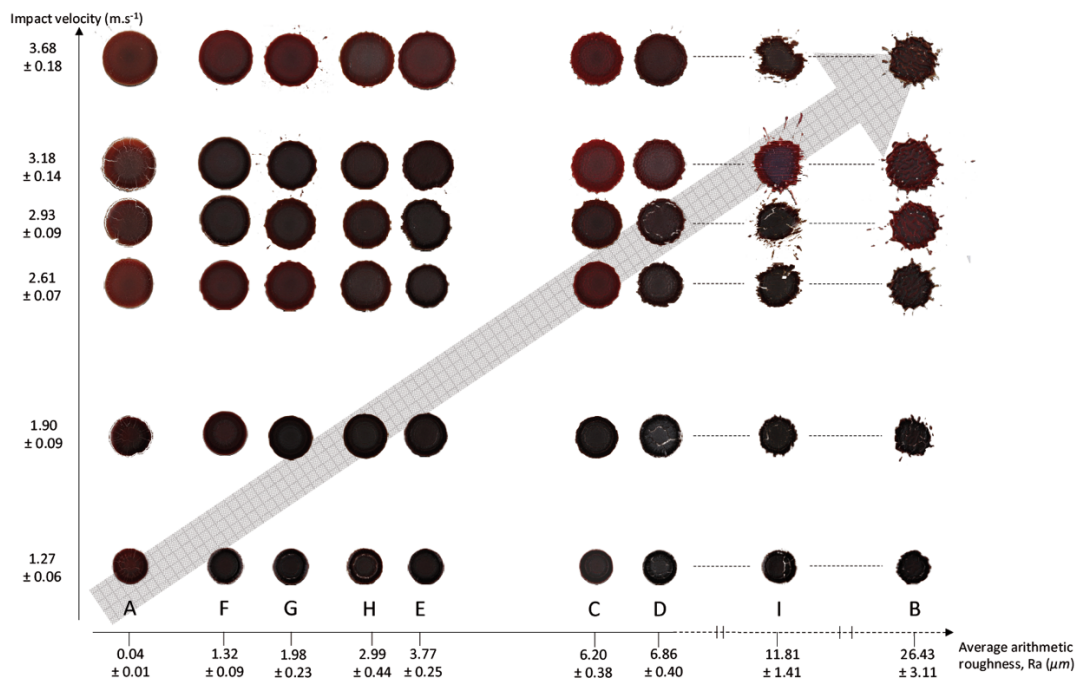


Figure 1: Recorded pictures after drying of passive drip stains of chapter 2. The bulging outer rim is visible for smooth surfaces, while deformation of the stain is increasing with velocity, from bottom to top, and with rough real surfaces (cf table 2.2), from right to left (scaled axis).

REFERENCE:

1. F.R. Smith, 'Wetting and evaporation of human blood in relation to forensic analysis' *Ph.D Thesis, 2018, Aix-Marseille University*