

Abstract Submitted  
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**Influence of characteristic components of blood on blood splashing onto a solid wall**<sup>1</sup> YUTO YOKOYAMA, MASANORI TAKEDA, HAJIME ONUKI, YOSHIYUKI TAGAWA, Tokyo University of Agriculture and Technology — Understanding of blood splashing on a solid wall is of great importance in forensic science since blood splashing determines the blood pattern remained on the wall. Blood is known as a complex liquid, containing platelets and blood cells such as red blood cells and white blood cells, as well as coagulant factors and liquid components such as water and proteins. In this study we investigate influence of characteristic components of blood on its splashing onto a solid wall by separating main components of the bloods. In our experiment, whole blood, containing all of the components, can be separated into three types of liquids: (i) Serum containing only liquid components of blood, (ii) PRP containing serum with coagulant factors, (iii) Plasma containing PRP with platelets. The droplets of these liquids and blood simulant are dropped from a needle at various heights and recorded by a high-speed camera. It is found that the droplet of whole blood shows a quite different behavior from droplets of the other types of liquids. We also compare the experimental results with the theories proposed recently and discuss the effect of the blood components on splashing.

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