

Abstract Submitted
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Dual luminescence imaging applied for capturing the temperature distribution of a super-cooled droplet in collision icing KATSUAKI MORITA, KOJI OKAMOTO, The University of Tokyo, HIROTAKA SAKAUE, Japan Aerospace Exploration Agency — Dual luminescence image is applied to capture the temperature distribution of a super-cooled droplet in icing when the droplet collides onto a plate. The imaging technique captures the temperature-sensitive luminescence and the temperature-insensitive luminescence, which are spectrally separated. These images are captured by a hi-speed color camera. The icing process from super-cooled condition to ice gives insight into further understandings of the icing in flights, power cables, architectures, etc. The icing formation is shown by time steps by using the hi-speed camera. The formation is discussed from the images captured. The plates are coated with icephobic coatings to understand their effects on the collision icing.

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