

Abstract Submitted
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Characterization of hydrophobic and hydrophilic coatings as deicing and anti-icing AKIHITO AOKI, Kogakuin University, KATSUAKI MORITA, University of Tokyo, AKIHISA KONNO, Kogakuin University, HIRO-TAKA SAKAUE, JAXA — Anti-icing is necessary in various fields, such as aeronautics, roads, power lines, ships, and architectures. Deicing fluids, and sometimes hot water, work to prevent from icing. Due to environmental issue, deicing fluids are not always welcome to use. We study hydrophobic and hydrophilic coatings for anti-icing. By coating these to a target surface, it prevents icing without damaging the environment. We present a characterization method of hydrophobic and hydrophilic coatings for deicing and anti-icing. We provide a temperature-control room to create an icing condition, such as -10 to 0 degrees C. Under the controlled room, the contact angle measurement as well as the force measurement is employed. Total 15 coatings are characterized. Based on the tests of all coatings, we propose a combined coating from some characterized ones.

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