

## PARTIALLY MELTING OF A LEVITATED ICE PARTICLE UNDER FORCED ADVECTION-DIFFUSION

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The ingestion of ice particles into aircraft jet engines leads to power loss and engine damage during flight. These ingested ice particles undergo melting on coming in contact with the warm engine components, forming a thin film of liquid water that captures ice particles further. This is known as ice accretion. Therefore, to understand the ice accretion process it is necessary to first understand the physics behind the ice particle melting phenomenon. The following research aims at developing a model to replicate the melting of ice particles in conditions present inside an aircraft jet engine. The effect of external physical parameters such as relative humidity, ambient temperature, saturation vapor density etc. on the melting behavior is also studied.

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