

# **Low-discrepancy Sampling Based Parameters Importance Measure Analysis for Anti-icing Piccolo Tube**

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In this paper, the importance measure analysis for an anti-icing piccolo tube structure parameters is performed. Firstly, a finite element model of the anti-icing piccolo tube is built and the performance function of resonance failure model for piccolo tube is approximated with a second-order response surface without cross terms. Secondly, the uncertainty of structure parameters is described with random variables and the main important measure model based on the variance of the output response is established. Finally, the solving method based on low-discrepancy sampling is performed. The importance measure analysis results can provided guidance for the anti-icing piccolo tube design.

**Keywords:** anti-icing piccolo tube, importance measure, low-discrepancy sampling, response surface method.