



Sudan University of Science & Technology
College of Graduate Studies

**Analysis, Performance and Optimization of
Perforated and Non-Perforated Fins under
Forced Convection**

تحليل اداء وامثلية الزعانف المثقبة والغير مثقبة تحت الحمل
الحرارى القسرى

**A Thesis Submitted in Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in Mechanical
Engineering (Power)**

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