

##C535050 : MAJOR ARCHITECTURE

KEY WORD: : STRATIFICATION EFFECT / ATRIUM

PAIBOON RAKSASUTIPHAN : A STUDY OF STRATIFICATION IN ATRIUM
USING SCALE MODEL SIMULATION. THESIS ADVISOR :
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The objective of this thesis is to study stratification effect in an atrium and design solution to solve that effect. Five factors that should have impact to the thermal behavior in the atrium are studied. The factors are outside temperature, vertical distance of every height in the atrium (height), solar radiation, outlet opening area and density of mass in the atrium.

This research is an experimental research using atrium models which inside dimension is 1.00 x 1.00 meters and 4 meters high. Atrium models are made of bricks and a light weight material, Inside are temperature at various levels of height including surface temperature were measured by Thermo Couple. The data is collected by recording the temperature every 15 minutes continuously for two consecutive days per one set of experiment. These data are analyzed with SPSS-PC+, a computer software package, by Multiple Regression and Correlation Method.

The result of the research leads to an equation for inside atrium temperature prediction correlating with the above five factors.