

## ABSTRACT

In this study, theoretical mass transfer results are obtained by solving the momentum and continuity equations for a wetted-wall column with laminar gas flow. These equations are represented by a system of finite difference equations, and then are solved by employing a digital computer for the numerical computations. The numerical results obtained are in close agreement with the analytical results obtained on the basis of the Graetz solution for the parabolic velocity profile. These results are also in general agreement with the Cheng's [1967] experimental results at high liquid flow rates.

A THEORETICAL STUDY OF MASS TRANSFER RATES INTO LAMINAR  
AIR STREAMS IN A WETTED WALL COLUMN

---

A Thesis  
Presented to  
the Faculty of the Graduate School  
Tennessee Technological University

---

In Partial Fulfillment  
of the Requirements for the Degree  
MASTER OF SCIENCE  
Chemical Engineering

---

by  
Ramesh V. Patel

November 1968

16809-382

CERTIFICATE OF APPROVAL OF THESIS

A THEORETICAL STUDY OF MASS TRANSFER RATES INTO LAMINAR  
AIR STREAMS IN A WETTED WALL COLUMN

by

Ramesh V. Patel

*William D. Holland*

Chairman, Graduate Advisory Committee

*Vinodkumar Sabai*

*MA. Nobles*

Approved for the Faculty

*Martin Peters*

Dean, Graduate School