dense phase flow behavior of gas fluidized solids in changing area flow behavior of gas fluidized solids in changing area flow sections is presented. A dimensionless process diagram is described.

Computer Program Abstracts

Readers of the *A.I.Ch.E. Journal* who are interested in programming for machine computation of chemical engineering problems will find in each issue of *Chemical Engineering Progress* abstracts of programs submitted by companies in the chemical process industries. Collected by the Machine Computation Committee of the A.I.Ch.E., these programs will be published as manuals where sufficient interest is indicated. The following abstracts have appeared this year:
CEP (October, 1962) p. 84

Calibration of Inclined Tanks with Dished Heads (101)

Analytical Solution of Fourth Order Equations (102)

(Continued from page 695)

N_{Nu} = Nusselt number = $2hr_o/k$
N_{Pr} = Prandtl number = ν/α
q = local heat flux density on cylinder wall
r = radial distance
r_o = radius of the cylinder
R = r/r_o
t = time
T = temperature
T_H = temperature of hot side of cylinder
T_c = temperature of cold side of cylinder
T_i = initial temperature = $(T_H + T_c)/2$
u = velocity component in the θ direction
U = ur_o/ν
v = velocity components in the radial direction
V = vr_o/ν

Greek Letters

α = thermal diffusivity of fluid
β = coefficient in equation of state (see reference 7) = $1/T_i$
ΔT = $T_H - T_c$
ν = kinematic viscosity of fluid
ϕ = $(T - T_i)/\Delta T$
τ = $t\nu/r_o^2$
θ = angle measured from bottom of cylinder through hot wall

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Manuscript received April 25, 1961; revision received June 6, 1962; paper accepted June 8, 1962. Paper presented at A.I.Ch.E. Cleveland meeting.