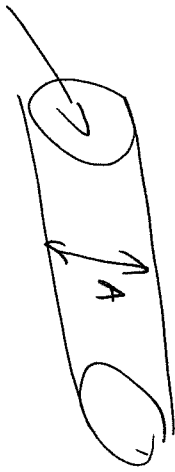


Discharge in Darcy Law

Darcy Law

$$Q = K I A$$



filled with porous material of porosity ϕ

Flux

v

(distance / time) EX. m/sec

$$V = Q / A = K \cdot I$$

Darcy Flux

v_x

(distance / time !)

$$v_x = Q / (A_m) = K I / n$$

$Q \equiv$ discharge

[vol / time i.e. m^3/day]

$A \equiv$ cross-sectional area of flow (i.e. aquifer width)

[m^2]

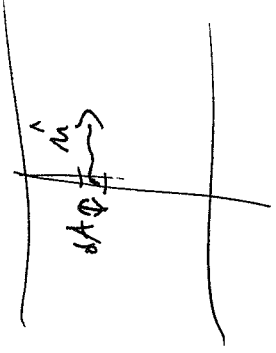
$I \equiv$ hydraulic head ($D_p + g$)

[m / sec]

velocity measure, gives IDEAL velocity of ground water does not account for porosity of flow paths

Actual velocity of groundwater that

accounts for porosity by including porosity



$$dA = \hat{n} \cdot dA$$

$$Q = \int_A \hat{n} \cdot dA$$