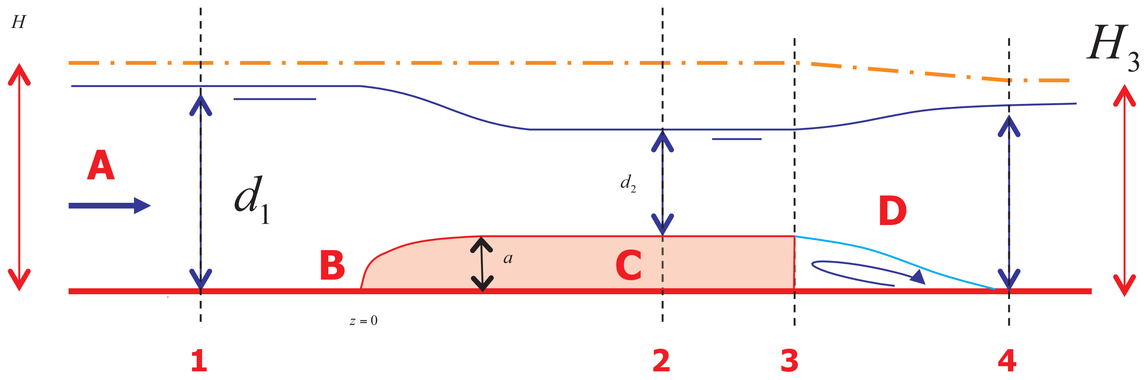
Rapidly varying flow over a weir

NCF

The long crested Weir



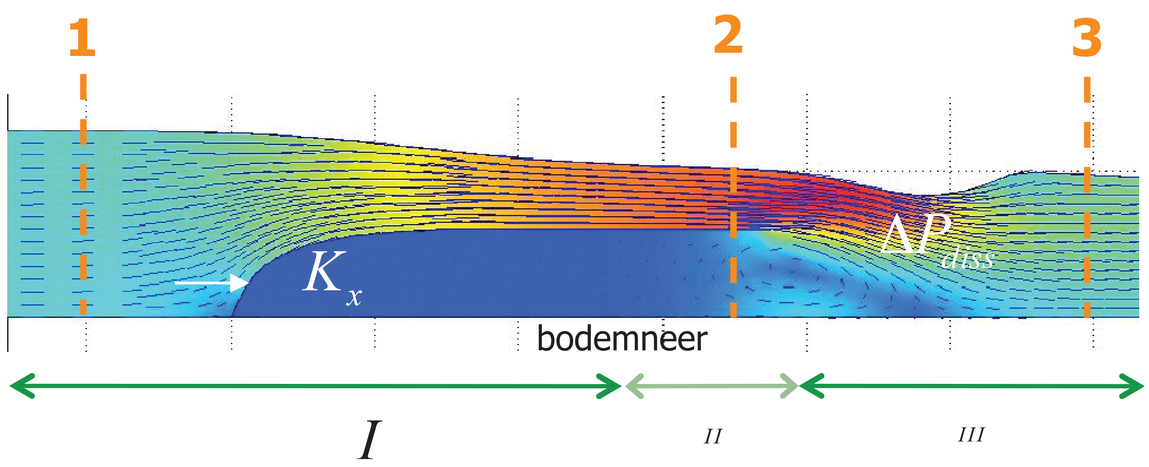
parallel streamlines above the weir

velocities in the downstream wake

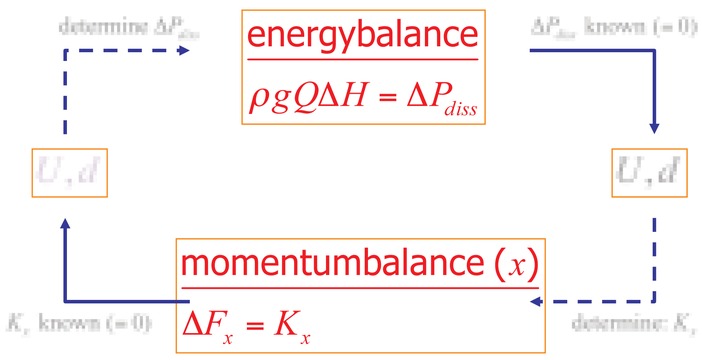
$\Rightarrow$ hydrostatic pressure in 3 : $F_{p,3} = \frac{1}{2}\rho g d_3^2$

momentum transport in 3 above a :

$\Rightarrow F_{mv,3} = \rho U_3^2 (d_3 - a) = \rho U_2^2 d_2$



- Inflow (I & II):
  - Accelerating
  - Small energy losses (streamlined):
- Outflow (III):
  - decelerating, separation and mixing (wake)
  - Main energy losses



TU Delft Delft University of Technology