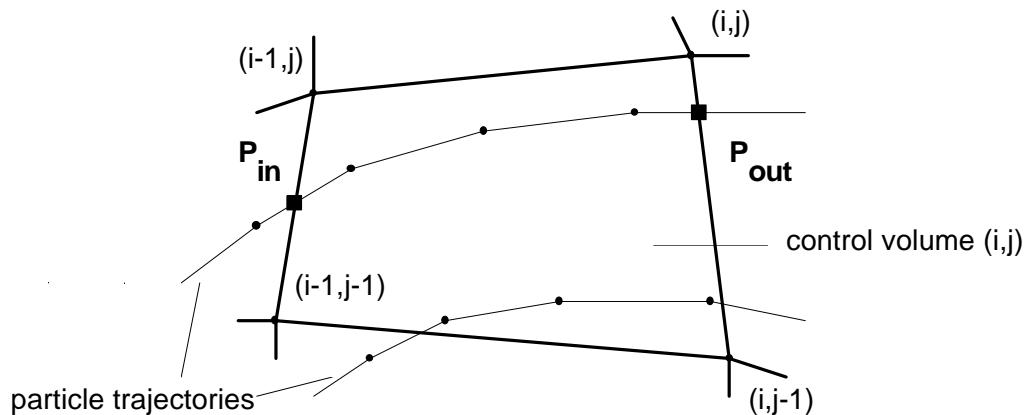


## Equations of motion of the disperse phase – II

- $C_W = C_W(Re_P)$  obtained from correlations by Morsi/Alexander
- $C_A = 6.48$  from Saffman, Dandy & Dwyer and Mei corrections
- $C_M = (0.4 \pm 0.1) \sigma$  for  $|\sigma| \leq 1$  ;  $C_M \equiv (0.4 \pm 0.1)$  for  $|\sigma| < 1$
- $\xi_m = \xi_m(Re_\omega)$  from Sawatzki
- Source terms in the Navier–Stokes equations due to momentum transfer between phases (PSI-cell model by C.T. Crowe) :



$$\begin{aligned}
 S_{u_{Fi}}^P &= -\frac{1}{V_{ij}} \sum_{n \in CV} \dot{N}_P \int_{t_{in}}^{t_{out}} (\vec{F}_W + \vec{F}_M + \vec{F}_A) dt \\
 &= -\frac{1}{V_{ij}} \sum_{n \in CV} m_P \dot{N}_P \left[ u_{Pi,out} - u_{Pi,in} - g_i \left( \frac{\rho_P - \rho_F}{\rho_P + \rho_F/2} \right) (t_{out} - t_{in}) \right]
 \end{aligned}$$

- if turbulence model for the fluid phase is used  $\Rightarrow$  Lagrangian stochastic-deterministic turbulence model (LSD or discrete eddy model) as proposed by Sommerfeld, Schönung, Milojević



### Investigation of Particle Separation in Symmetrical Double Cyclone Separators

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