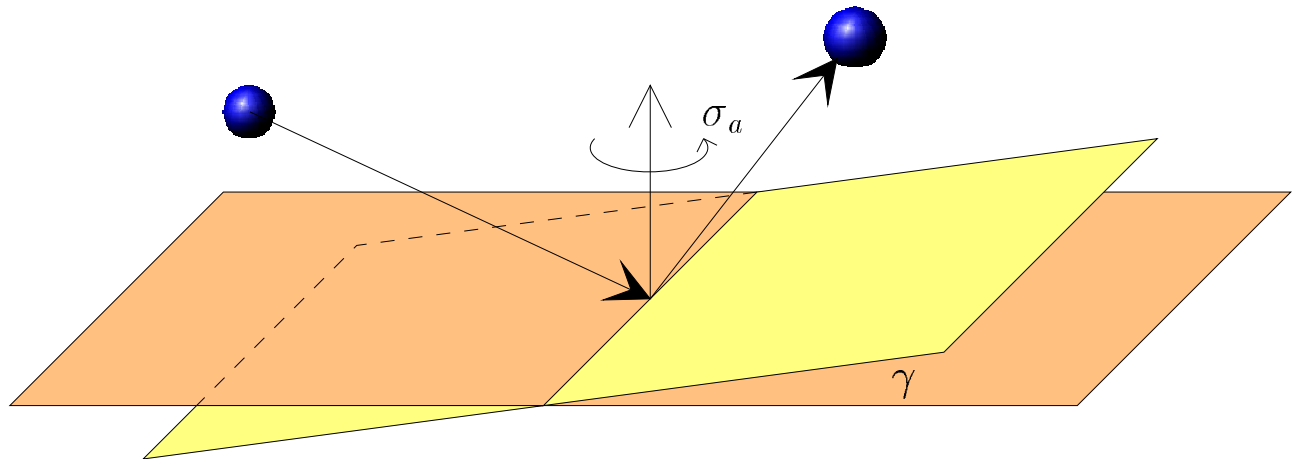# Particle–wall interaction

Combination of irregular bouncing model of Frank (1991) and Sommerfeld (1992)

- inclination angle γ is sampled from a gaussian distribution with a mean value of 0° and a standard deviation of $\Delta\gamma$

- according to the rough wall model of Frank (1991) $\Delta\gamma$ can be estimated by :

$$\Delta\gamma = \ \arctan\frac{2\Delta H_r}{L_r} \quad \text{for} \quad d_P \geq \frac{L_r}{\sin(\arctan\frac{2H_r}{L_r})}$$

$$\Delta\gamma = \ \arctan\frac{2H_r}{L_r} \quad \text{for} \quad d_P < \frac{L_r}{\sin(\arctan\frac{2H_r}{L_r})}$$

- the inclined virtual wall is additionally turned around the normal vector of the original wall by an azimuthal angle σ_a (uniform distribution in the range $[-\pi, \pi]$)

Investigation of Particle Separation in Symmetrical Double Cyclone Separators

Th. Frank*, J. Schneider**, Q. Yu*, E. Wassen*
* Chemnitz University of Technology / ** FH Flensburg, Germany