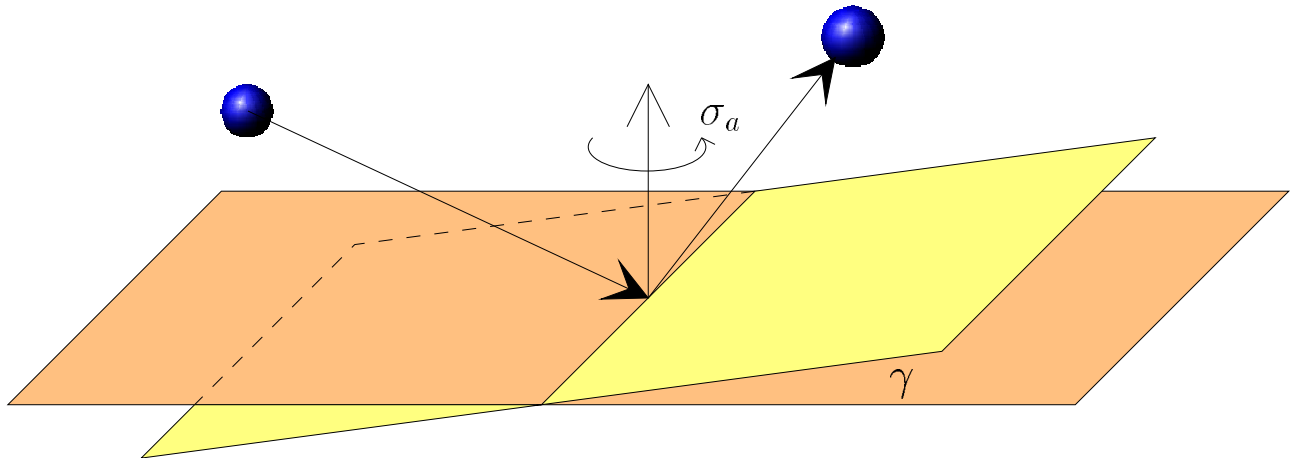


Particle–wall interaction

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 :

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

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

- 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 $[-\pi, \pi]$)