Today, we will:
- Continue discussing about cascade impactors
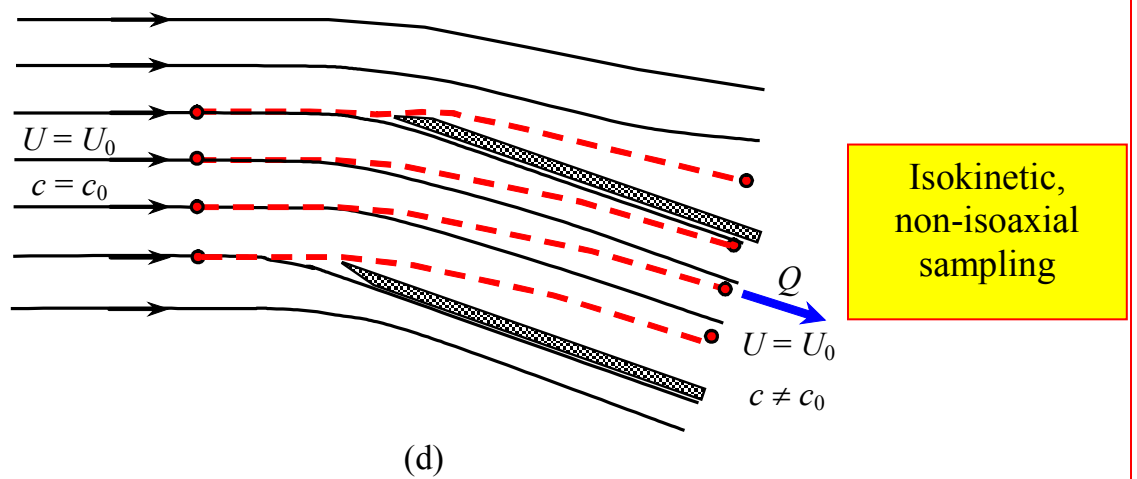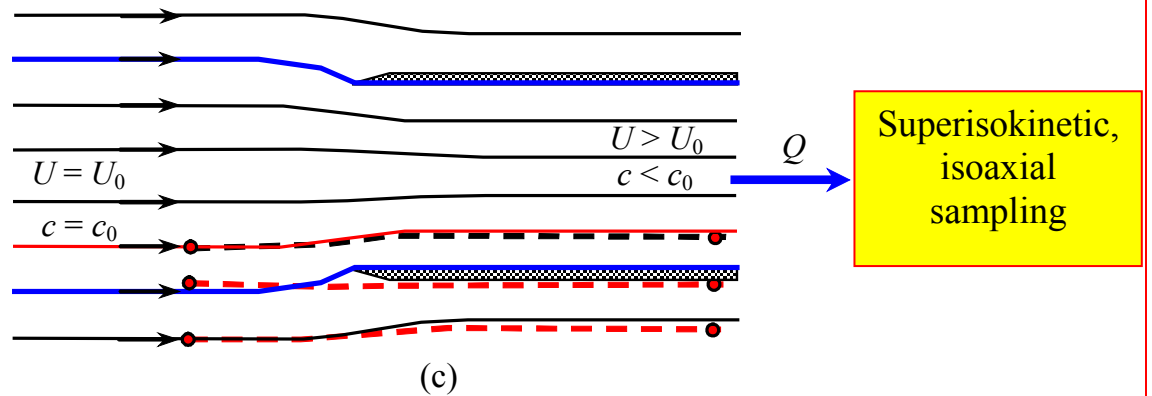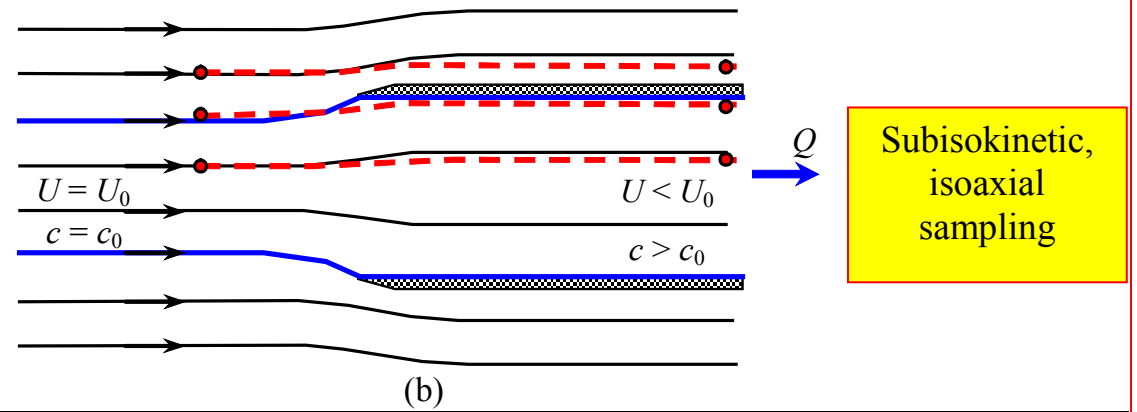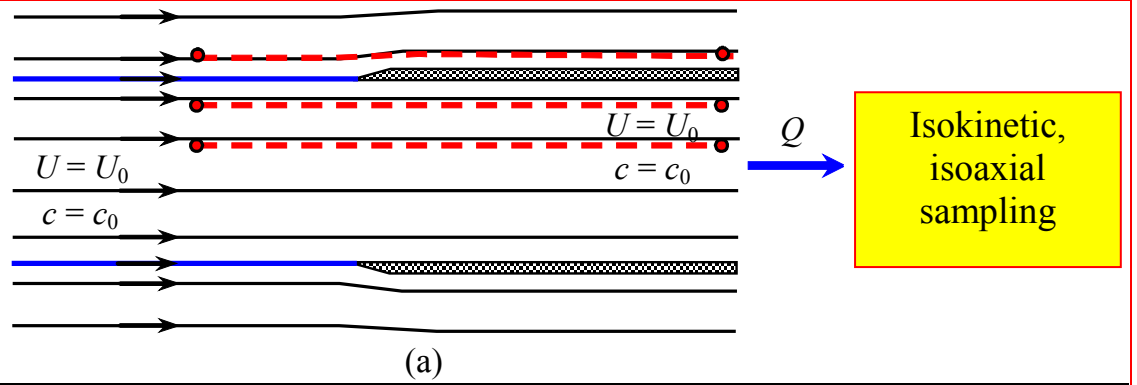- Discuss some issues related to sampling with a probe (isokinetic, isoaxial, etc.)
- Begin a discussion about how water drops (rain) cleans the air

Recall our cascade impactor, with several stages ($j = 0, 1, 2, 3, ... J$-1). This one is 8-stage, with 8 trays.

(a) Isokinetic, isoaxial sampling

$U = U_0$
$c = c_0$

$U = U_0$
$c = c_0$

Q

(b) Subisokinetic, isoaxial sampling

$U = U_0$
$c = c_0$

$U < U_0$
$c > c_0$

Q

(c) Superisokinetic, isoaxial sampling

$U = U_0$
$c = c_0$

$U > U_0$
$c < c_0$

Q

(d) Isokinetic, non-isoaxial sampling

$U = U_0$
$c = c_0$

$U = U_0$
$c \neq c_0$

Q
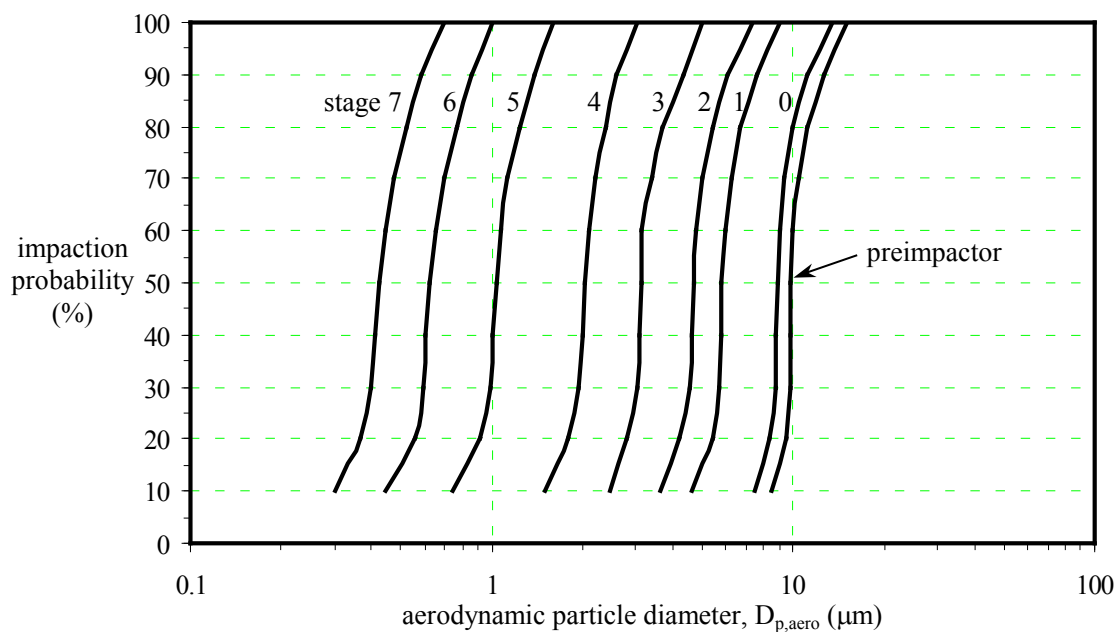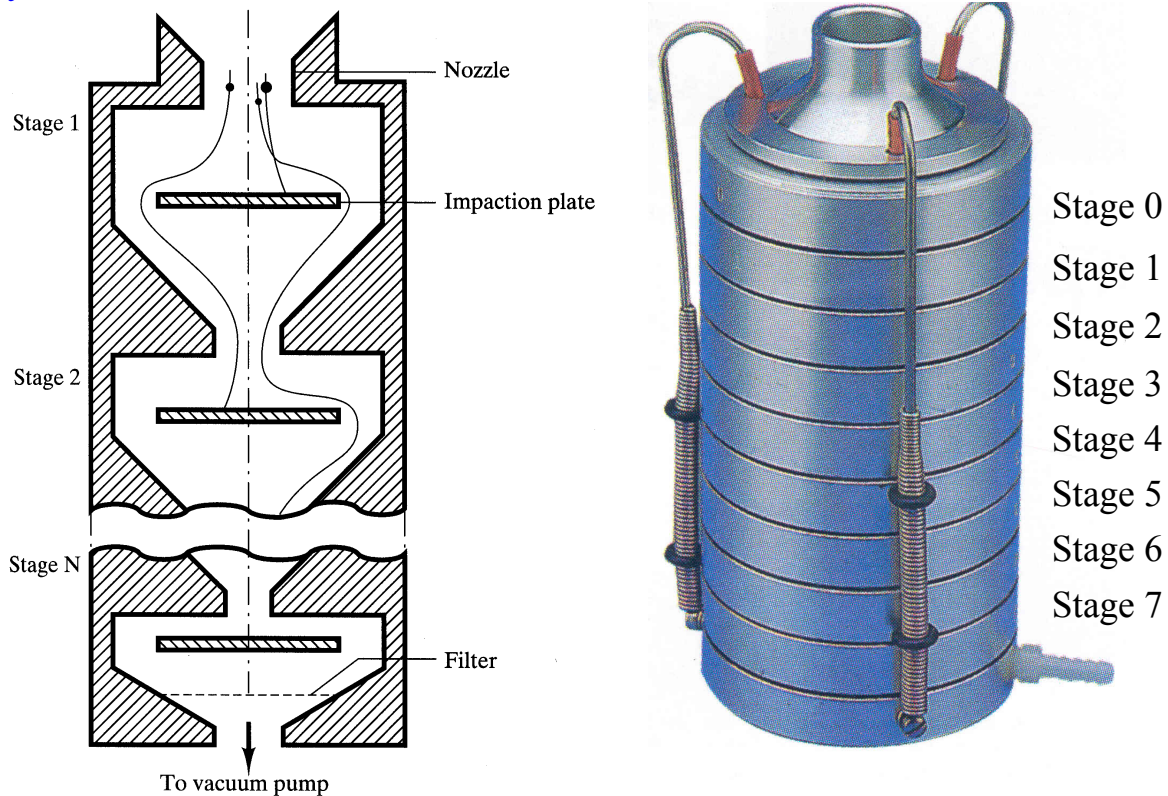
Particle trajectories (dashed) and streamlines (solid) for (a) isokinetic, isoaxial sampling, (b) subisokinetic, isoaxial sampling, (c) superisokinetic, isoaxial sampling, (d) isokinetic, but non-isoaxial sampling (misaligned sampling probe); dividing streamlines are **bold** and blue.