Rotation

Reference
Panel:
Particle System ‣ Rotation

These parameters specify how the individual particles are rotated at the start of, and during, their lifetime. You can visualize their orientation by setting *Display As* to *Axis* in the Viewport Display panel.

Orientation Axis

Aligns the X axis of new particles to:

None

The global X axis.

Normal

The emitter's surface normal.

Normal-Tangent

The emitter's surface normal, additionally aligning the particle's Y axis to the positive V direction in the emitter's active UV map. This make it possible to deform the emitter while keeping particle rotation consistent.

Velocity / Hair

The particle's initial velocity vector/hair growth direction.

Global X, Y, Z

One of the global axes.

Object X, Y, Z

One of the emitter's local axes.

Randomize

How much to randomize the particle's initial rotation (along all axes).

Phase

Initial rotation around the particle's X axis, going from -1 (-180°) to 1 (180°).

Randomize Phase

Maximum random rotation to add to the *Phase*, going from 0 (0°) to 2 (360°).

Dynamic

Whether the particles' rotation can change over time.

Angular Velocity

Reference
Panel:
Particle System ‣ Rotation ‣ Angular Velocity

Lets you configure if and how particles should spin over time. *Dynamic* needs to be enabled for this to work.

Axis

The axis to spin around. If this is set to *Velocity*, *Horizontal*, or *Vertical*, particles will additionally spin to keep the same orientation relative to th direction of movement, even if *Amount* is zero.

None

Spinning is disabled.

Velocity

Spin around the particle's velocity vector.

Horizontal

Spin around the axis that's horizontal (lying in the global XY plane) and perpendicular to the particle's velocity. Particles moving along the global Z axis won't spin because no unique rotation axis exists in this case.

Vertical

Spin around the axis that's perpendicular to both the particle's velocity and the above *Horizontal* axis. Particles moving along the global Z axis won't spin.

Global X, Y, Z

Spin around the chosen global axis.

Random

Spin around a random axis.

> Hint
>
> If you use a Curve Guide and want the particles to always point in the direction of the curve, you should set the *Orientation Axis* to *Velocity / Hair*, enable *Dynamic*, and set the *Angular Velocity Axis* to *Velocity*.
>
> (For a regular object, you'd normally use the *Follow Curve* option of a Follow Path Constraint or the legacy Follow option of the curve itself, but these don't work for particles.)

Amount

How fast to spin around the *Axis*.