粒子影响器

影响器是粒子系统的可选组件。它们可以对仿真执行各种操作，例如改变粒子的轨迹或在仿真中过早地结束粒子的寿命。出于性能原因，建议不要在高容量粒子系统中使用影响器。

以下影响器组件控制粒子在其生存期内的动画效果：

- 吸引子将粒子吸引到特定点。
- 重力将粒子在指定方向上加速到指定大小的矢量。
- 点旋转器围绕枢轴点旋转粒子。
- 徘徊将随机波曲线应用于粒子。

如果系统有多个影响因子，则影响因子的顺序可能会导致不同的结果，因为影响因子一个接一个地应用。

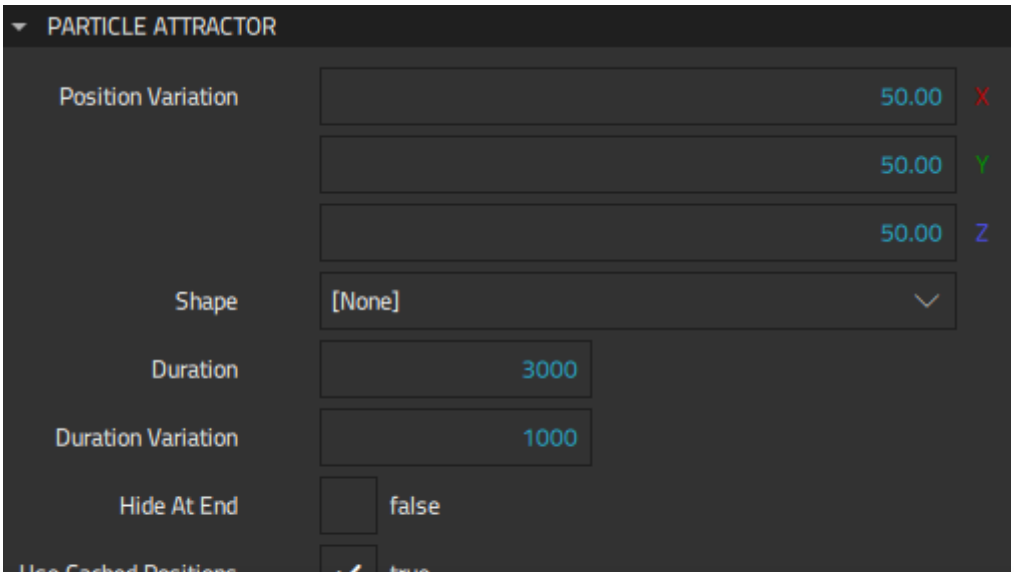
默认情况下，影响器会影响系统中的所有粒子，但您可以将此限制在"粒子影响器>属性">**中列出的粒子**。

吸引

吸引器组件将粒子吸引到 View 3D 组件实例内的某个位置。要对重心较远的大型物体的重力进行建模，请使用重力分量的实例。

通过使用吸引子的位置和位置**变化**的值，或通过在 Shape 中选择"**粒子形状**"或"**模型形状**"**分**量的实例来定义吸引力**位置**。如果同时定义了位置和形状，则使用形状。

在"**属性**"中指定"**吸引器**"组件的设置，>**粒子吸引器**"。



位置变化指定吸引位置的变化。它不是将粒子吸引到单个点，而是将它们随机吸引到更广阔的区域。例如，要在 2 到 4 秒内将粒子吸引到 （50， 50， 50） 立方体中位置 （100， 0， 0） 的某个随机点，请将 **X**、**Y** 和 **Z** 设置为 50.00，**将持续时间**设置为 3000，**将持续时间变化**设置为 1000。

在**"形状"中**，选择"粒子形状"或"模型形状"组件的实例，以将粒子吸引到形状内的随机位置。定义形状后，它将在 **3D** 视图中可视化。

持续时间指定粒子到达吸引力位置所需的持续时间（以毫秒为单位）。当值为 -1 时，**粒子发射器**>**寿命**将用作持续时间。如果指定**持续时间变化**，则到达吸引子的实际持续时间介于持续时间减去持续时间变化和持续时间加持续时间变化之间。

选择**"在末尾隐藏"**以使粒子在到达吸引子时消失。

选择"**使用缓存位置**"以缓存吸引子**形状**中的可能位置。缓存位置提供的随机结果较少，但对性能更好。

位置量指定在吸引子的形状中存储的可能位置**的数量**。默认情况下，该数量等于粒子计数，但您可以为较小的缓存指定较低的数量。为其他随机化指定更高的数量。

重力

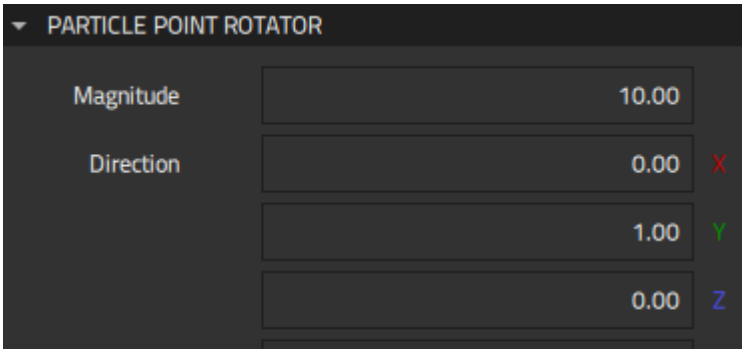
"重力"组件模拟重心较远的大型物体的重力，因此整个场景中的重力拉力实际上是恒定的。要对场景附近或内部对象的重力进行建模，请使用吸引器组件实例。

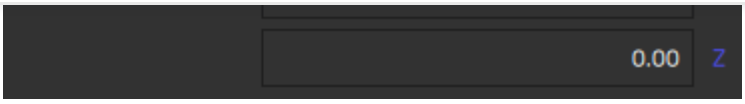
在**"属性"**>**"粒子重力"**中指定"**重力"组件实例的**设置。

Magnitude defines the magnitude in particle position change in degrees per second. A negative value accelerates in the opposite way from the direction specified in **Direction**. Direction **X**, **Y**, and **Z** values are automatically normalized to a unit vector.

Point Rotator

Specify settings for **Point Rotator** component instances in **Properties** > **Point Rotator**.





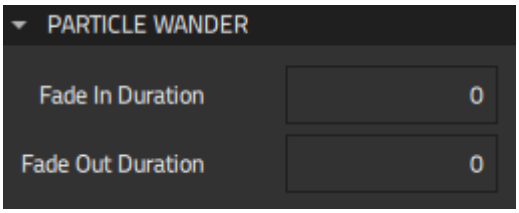
The **Point Rotator** component rotates particles around the pivot point specified in **Pivot point** towards the direction specified in **Direction**. Direction **X**, **Y**, and **Z** values are automatically normalized to a unit vector.

Magnitude defines the magnitude in particle position change in degrees per second. A negative value accelerates in the opposite way from the direction specified in **Direction**.

Wander

The **Wander** component applies random wave curves to particles. Curves can combine global values that are the same for all particles and unique values that differ randomly.

Specify settings for **Wander** component instances in **Properties** > **Particle Wander**.

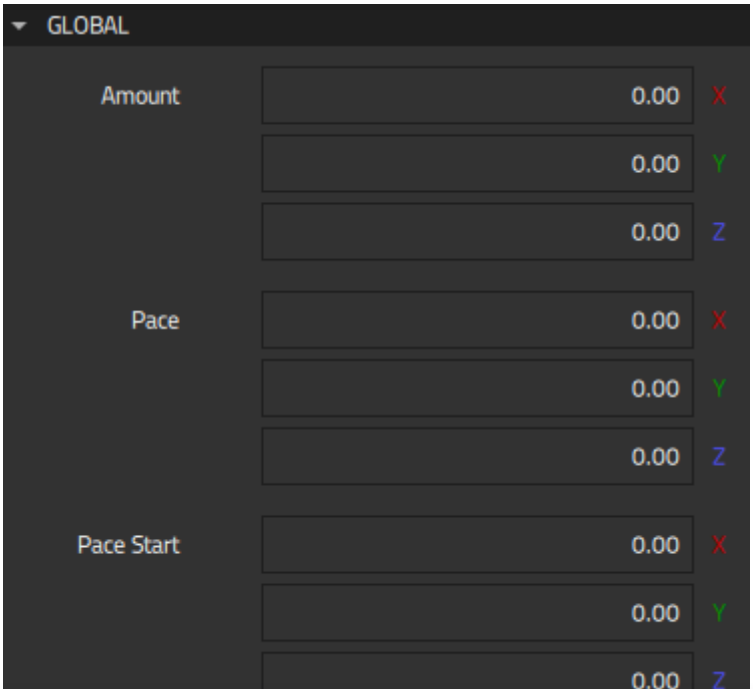


Fade in duration specifies the duration in milliseconds for fading in the affector. After this duration, the wandering will be in full effect. Setting this value can be useful to emit from a specific position or shape, otherwise wander will affect the position also at the beginning.

Fade out duration specifies the duration in milliseconds for fading out the affector. Setting this value can be useful to reduce the wander when the particle life time ends, for example when combined with an instance of the Attractor component so that the end positions will match the shape.

Global Wander Properties

Specify global settings for **Wander** component instances in **Properties** > **Global**.

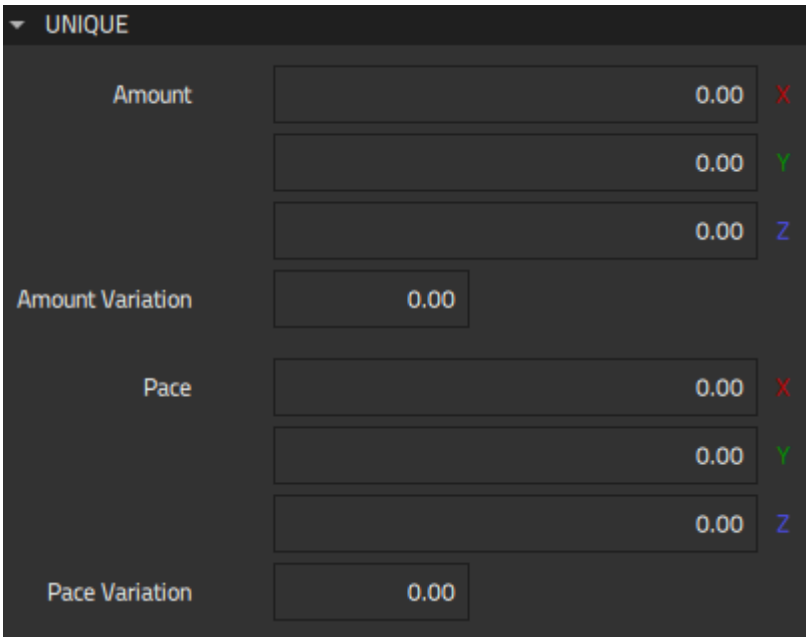


to 100.00, **Y** to 10.00, and **Z** to 0.00, all particles wander between (100, 10, 0) and (-100, -10, 0).

Pace defines the frequency at which each particle wanders in curves per second, starting from **Pace start**. The meaningful range for pace start is between 0 .. 2 * PI.

Unique Wander Properties

Specify unique settings for the **Wander** component instances in **Properties** > **Unique**.

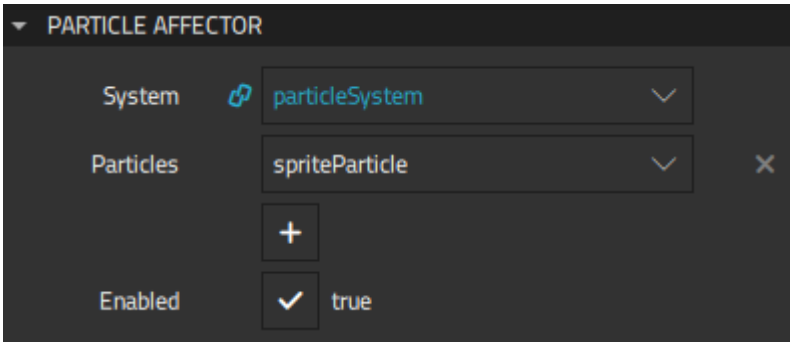


Amount specifies the distance that each particle moves at the ends of curves. Specify amount variation for each particle between 0.00 and 1.00 in **Amount variation**. When the amount variation is 0.00, all particles reach the maximum amount. When it is 0.50, every particle reaches between 0.50 and 1.50 of the amount. For example, if you set **Amount X** to 100.00, **Y** to 50.00, and **Z** to 20.00) and **Amount variation** to 0.10, the particles' maximum wave distances are something random between (110, 55, 22) and (90, 45, 18).

Pace defines the frequency at which each particle wanders in curves per second. Specify unique pace variation for each particle between 0.00 and 1.00 in **Pace variation**. When the variation is 0.00, all particles wander at the same frequency. For example, if you set **Pace X** to 1.00, **Y** to 2.00, and **Z** to 4.00 and **Pace variation** to 0.50, the particles' wave paces are something random between (2.00, 4.00, 8.00) and (0.50, 1.00, 2.00).

Particle Affector

Specify common settings for particle affectors in **Properties** > Particle Affector.



If the affector is not a direct child component of the particle system, select the **Particle System** component instance

To only affect some of the particles in the particle system, select them in **Particles**. Select + to add logical particles to the list.

Deselect **Enabled** to turn the affector off. Usually, this property is used in code to conditionally turn affectors off and on.

‹ Particle Emitters

Particle Directions ›

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