FieldSettings(bpy_struct)

base class — bpy_struct

class bpy.types.**FieldSettings(bpy_struct)**

Field settings for an object in physics simulation

apply_to_location

Affect particle's location

TYPE:

boolean, default False

apply_to_rotation

Affect particle's dynamic rotation

TYPE:

boolean, default False

distance_max

Maximum distance for the field to work

TYPE:

float in [0, inf], default 0.0

distance_min

Minimum distance for the field's falloff

TYPE:

float in [0, 1000], default 0.0

falloff_power

How quickly strength falls off with distance from the force field

TYPE:

float in [0, 10], default 0.0

falloff_type

TYPE:

enum in ['CONE', 'SPHERE', 'TUBE'], default 'SPHERE'

flow

Convert effector force into air flow velocity

TYPE:

float in [-inf, inf], default 0.0

guide_clump_amount

Amount of clumping

TYPE:

float in [-1, 1], default 0.0

guide_clump_shape

Shape of clumping

TYPE:

float in [-0.999, 0.999], default 0.0

guide_free

Guide-free time from particle life's end

TYPE:

float in [0, 0.99], default 0.0

guide_kink_amplitude

The amplitude of the offset

TYPE:

float in [0, 10], default 0.0

guide_kink_axis

Which axis to use for offset

TYPE:

enum in Axis Xyz Items, default 'X'

guide_kink_frequency

The frequency of the offset (1/total length)

TYPE:

float in [0, 10], default 0.0

guide_kink_shape

Adjust the offset to the beginning/end

TYPE:

float in [-0.999, 0.999], default 0.0

guide_kink_type

Type of periodic offset on the curve

TYPE:

enum in ['NONE', 'BRAID', 'CURL', 'RADIAL', 'ROLL', 'ROTATION', 'WAVE'], default 'NONE'

guide_minimum

The distance from which particles are affected fully

TYPE:

float in [-inf, inf], default 0.0

harmonic_damping

Damping of the harmonic force

TYPE:

float in [-inf, inf], default 0.0

inflow

Inwards component of the vortex force

TYPE:

float in [-inf, inf], default 0.0

linear_drag

Drag component proportional to velocity

TYPE:

float in [-inf, inf], default 0.0

noise

Amount of noise for the force strength

TYPE:

float in [0, 10], default 0.0

quadratic_drag

Drag component proportional to the square of velocity

TYPE:

float in [-inf, inf], default 0.0

radial_falloff

Radial falloff power (real gravitational falloff = 2)

TYPE:

float in [0, 10], default 0.0

radial_max

Maximum radial distance for the field to work

TYPE:

float in [0, 1000], default 0.0

radial_min

Minimum radial distance for the field's falloff

TYPE:

float in [0, 1000], default 0.0

rest_length

Rest length of the harmonic force

TYPE:

float in [0, inf], default 0.0

seed

Seed of the noise

TYPE:

int in [1, 128], default 0

shape

Which direction is used to calculate the effector force

- `POINT` Point – Field originates from the object center.
- `LINE` Line – Field originates from the local Z axis of the object.
- `PLANE` Plane – Field originates from the local XY plane of the object.
- `SURFACE` Surface – Field originates from the surface of the object.
- `POINTS` Every Point – Field originates from all of the vertices of the object.

TYPE:

enum in ['POINT', 'LINE', 'PLANE', 'SURFACE', 'POINTS'], default 'POINT'

enum in [‘POINT’, ‘LINE’, ‘PLANE’, ‘SURFACE’, ‘POINTS’], default ‘POINT’

size

Size of the turbulence

TYPE:

float in [0, inf], default 0.0

source_object

Select domain object of the smoke simulation

TYPE:

`Object`

strength

Strength of force field

TYPE:

float in [-inf, inf], default 0.0

texture

Texture to use as force

TYPE:

`Texture`

texture_mode

How the texture effect is calculated (RGB and Curl need a RGB texture, else Gradient will be used instead)

TYPE:

enum in [‘CURL’, ‘GRADIENT’, ‘RGB’], default ‘RGB’

texture_nabla

Defines size of derivative offset used for calculating gradient and curl

TYPE:

float in [0.0001, 1], default 0.0

type

Type of field

- `NONE` None.
- `BOID` Boid – Create a force that acts as a boid’s predators or target.
- `CHARGE` Charge – Spherical forcefield based on the charge of particles, only influences other charge force fields.
- `GUIDE` Curve Guide – Create a force along a curve object.
- `DRAG` Drag – Create a force that dampens motion.
- `FLUID_FLOW` Fluid Flow – Create a force based on fluid simulation velocities.
- `FORCE` Force – Radial field toward the center of object.
- `HARMONIC` Harmonic – The source of this force field is the zero point of a harmonic oscillator.
- `LENNARDJ` Lennard-Jones – Forcefield based on the Lennard-Jones potential.
- `MAGNET` Magnetic – Forcefield depends on the speed of the particles.
- `TEXTURE` Texture – Force field based on a texture.
- `TURBULENCE` Turbulence – Create turbulence with a noise field.
- `VORTEX` Vortex – Spiraling force that twists the force object’s local Z axis.
- `WIND` Wind – Constant force along the force object’s local Z axis.

TYPE:

TYPE:

enum in [‘NONE’, ‘BOID’, ‘CHARGE’, ‘GUIDE’, ‘DRAG’, ‘FLUID_FLOW’, ‘FORCE’, ‘HARMONIC’, ‘LENNARDJ’, ‘MAGNET’, ‘TEXTURE’, ‘TURBULENCE’, ‘VORTEX’, ‘WIND’], default ‘NONE’

use_2d_force

Apply force only in 2D

TYPE:

boolean, default False

use_absorption

Force gets absorbed by collision objects

TYPE:

boolean, default False

use_global_coords

Use effector/global coordinates for turbulence

TYPE:

boolean, default False

use_gravity_falloff

Multiply force by 1/distance²

TYPE:

boolean, default False

use_guide_path_add

Based on distance/falloff it adds a portion of the entire path

TYPE:

boolean, default False

use_guide_path_weight

Use curve weights to influence the particle influence along the curve

TYPE:

boolean, default False

use_max_distance

Use a maximum distance for the field to work

TYPE:

boolean, default False

use_min_distance

Use a minimum distance for the field’s falloff

TYPE:

boolean, default False

use_multiple_springs

Every point is affected by multiple springs

TYPE:

boolean, default False

use_object_coords

use_object_coords

Use object/global coordinates for texture

TYPE:

boolean, default False

use_radial_max

Use a maximum radial distance for the field to work

TYPE:

boolean, default False

use_radial_min

Use a minimum radial distance for the field's falloff

TYPE:

boolean, default False

use_root_coords

Texture coordinates from root particle locations

TYPE:

boolean, default False

use_smoke_density

Adjust force strength based on smoke density

TYPE:

boolean, default False

wind_factor

How much the force is reduced when acting parallel to a surface, e.g. cloth

TYPE:

float in [0, 1], default 0.0

z_direction

Effect in full or only positive/negative Z direction

TYPE:

enum in ['POSITIVE', 'NEGATIVE', 'BOTH'], default 'BOTH'

classmethod bl_rna_get_subclass(id, default=None)

PARAMETERS:

id (*str*) – The RNA type identifier.

RETURNS:

The RNA type or default when not found.

RETURN TYPE:

`bpy.types.Struct` subclass

classmethod bl_rna_get_subclass_py(id, default=None)

PARAMETERS:

id (*str*) – The RNA type identifier.

RETURNS:

The class or default when not found.

RETURN TYPE:

type

Inherited Properties

- bpy_struct.id_data

Inherited Functions

- bpy_struct.as_pointer
- bpy_struct.driver_add
- bpy_struct.driver_remove
- bpy_struct.get
- bpy_struct.id_properties_clear
- bpy_struct.id_properties_ensure
- bpy_struct.id_properties_ui
- bpy_struct.is_property_hidden
- bpy_struct.is_property_overridable_library
- bpy_struct.is_property_readonly
- bpy_struct.is_property_set
- bpy_struct.items
- bpy_struct.keyframe_delete
- bpy_struct.keyframe_insert
- bpy_struct.keys
- bpy_struct.path_from_id
- bpy_struct.path_resolve
- bpy_struct.pop
- bpy_struct.property_overridable_library_set
- bpy_struct.property_unset
- bpy_struct.type_recast
- bpy_struct.values

References

- Object.field
- ParticleSettings.force_field_1
- ParticleSettings.force_field_2