ClothSettings(bpy_struct)

base class — bpy_struct

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

Cloth simulation settings for an object

air_damping

Air has normally some thickness which slows falling things down

TYPE:

float in [0, 10], default 1.0

bending_damping

Amount of damping in bending behavior

TYPE:

float in [0, 1000], default 0.5

bending_model

Physical model for simulating bending forces

- ANGULAR Angular – Cloth model with angular bending springs.
- LINEAR Linear – Cloth model with linear bending springs (legacy).

TYPE:

enum in ['ANGULAR', 'LINEAR'], default 'ANGULAR'

bending_stiffness

How much the material resists bending

TYPE:

float in [0, 10000], default 0.5

bending_stiffness_max

Maximum bending stiffness value

TYPE:

float in [0, 10000], default 0.5

collider_friction

TYPE:

float in [0, 1], default 0.0

compression_damping

Amount of damping in compression behavior

TYPE:

float in [0, 50], default 5.0

compression_stiffness

How much the material resists compression

TYPE:

float in [0, 10000], default 15.0

compression_stiffness_max

Maximum compression stiffness value

TYPE:

float in [0, 10000], default 15.0

density_strength

Influence of target density on the simulation

TYPE:

float in [0, 1], default 0.0

density_target

Maximum density of hair

TYPE:

float in [0, 10000], default 0.0

effector_weights

TYPE:

`EffectorWeights`, (readonly)

fluid_density

Density (kg/l) of the fluid contained inside the object, used to create a hydrostatic pressure gradient simulating the weight of the internal fluid, c buoyancy from the surrounding fluid if negative

TYPE:

float in [-inf, inf], default 0.0

goal_default

Default Goal (vertex target position) value, when no Vertex Group used

TYPE:

float in [0, 1], default 0.0

goal_friction

Goal (vertex target position) friction

TYPE:

float in [0, 50], default 0.0

goal_max

Goal maximum, vertex group weights are scaled to match this range

TYPE:

float in [0, 1], default 1.0

goal_min

Goal minimum, vertex group weights are scaled to match this range

TYPE:

float in [0, 1], default 0.0

goal_spring

Goal (vertex target position) spring stiffness

TYPE:

float in [0, 0.999], default 1.0

float in [0, 0.999], default 1.0

gravity

Gravity or external force vector

TYPE:

mathutils.Vector of 3 items in [-100, 100], default (0.0, 0.0, -9.81)

internal_compression_stiffness

How much the material resists compression

TYPE:

float in [0, 10000], default 15.0

internal_compression_stiffness_max

Maximum compression stiffness value

TYPE:

float in [0, 10000], default 15.0

internal_friction

TYPE:

float in [0, 1], default 0.0

internal_spring_max_diversion

How much the rays used to connect the internal points can diverge from the vertex normal

TYPE:

float in [0, 0.785398], default 0.785398

internal_spring_max_length

The maximum length an internal spring can have during creation. If the distance between internal points is greater than this, no internal spring w be created between these points. A length of zero means that there is no length limit.

TYPE:

float in [0, 1000], default 0.0

internal_spring_normal_check

Require the points the internal springs connect to have opposite normal directions

TYPE:

boolean, default True

internal_tension_stiffness

How much the material resists stretching

TYPE:

float in [0, 10000], default 15.0

internal_tension_stiffness_max

Maximum tension stiffness value

TYPE:

float in [0, 10000], default 15.0

mass

The mass of each vertex on the cloth material

TYPE:

TYPE:

float in [0, inf], default 0.3

pin_stiffness

Pin (vertex target position) spring stiffness

TYPE:

float in [0, 50], default 1.0

pressure_factor

Ambient pressure (kPa) that balances out between the inside and outside of the object when it has the target volume

TYPE:

float in [0, 10000], default 1.0

quality

Quality of the simulation in steps per frame (higher is better quality but slower)

TYPE:

int in [1, inf], default 5

rest_shape_key

Shape key to use the rest spring lengths from

TYPE:

ShapeKey

sewing_force_max

Maximum sewing force

TYPE:

float in [0, 10000], default 0.0

shear_damping

Amount of damping in shearing behavior

TYPE:

float in [0, 50], default 5.0

shear_stiffness

How much the material resists shearing

TYPE:

float in [0, 10000], default 5.0

shear_stiffness_max

Maximum shear scaling value

TYPE:

float in [0, 10000], default 5.0

shrink_max

Max amount to shrink cloth by

TYPE:

float in [-inf, 1], default 0.0

shrink_min

Factor by which to shrink cloth

TYPE:

float in [-inf, 1], default 0.0

target_volume

The mesh volume where the inner/outer pressure will be the same. If set to zero the change in volume will not affect pressure.

TYPE:

float in [0, 10000], default 0.0

tension_damping

Amount of damping in stretching behavior

TYPE:

float in [0, 50], default 5.0

tension_stiffness

How much the material resists stretching

TYPE:

float in [0, 10000], default 15.0

tension_stiffness_max

Maximum tension stiffness value

TYPE:

float in [0, 10000], default 15.0

time_scale

Cloth speed is multiplied by this value

TYPE:

float in [0, inf], default 1.0

uniform_pressure_force

The uniform pressure that is constantly applied to the mesh, in units of Pressure Scale. Can be negative.

TYPE:

float in [-10000, 10000], default 0.0

use_dynamic_mesh

Make simulation respect deformations in the base mesh

TYPE:

boolean, default False

use_internal_springs

Simulate an internal volume structure by creating springs connecting the opposite sides of the mesh

TYPE:

boolean, default False

use_pressure

Simulate pressure inside a closed cloth mesh

TYPE:

boolean, default False

use_pressure_volume

Use the Target Volume parameter as the initial volume, instead of calculating it from the mesh itself

TYPE:

boolean, default False

use_sewing_springs

Pulls loose edges together

TYPE:

boolean, default False

vertex_group_bending

Vertex group for fine control over bending stiffness

TYPE:

string, default “”, (never None)

vertex_group_intern

Vertex group for fine control over the internal spring stiffness

TYPE:

string, default “”, (never None)

vertex_group_mass

Vertex Group for pinning of vertices

TYPE:

string, default “”, (never None)

vertex_group_pressure

Vertex Group for where to apply pressure. Zero weight means no pressure while a weight of one means full pressure. Faces with a vertex that has zero weight will be excluded from the volume calculation.

TYPE:

string, default “”, (never None)

vertex_group_shear_stiffness

Vertex group for fine control over shear stiffness

TYPE:

string, default “”, (never None)

vertex_group_shrink

Vertex Group for shrinking cloth

TYPE:

string, default “”, (never None)

vertex_group_structural_stiffness

Vertex group for fine control over structural stiffness

TYPE:

string, default “”, (never None)

voxel_cell_size

Size of the voxel grid cells for interaction effects

TYPE:

float in [0.0001, 10000], default 0.1

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

- `ClothModifier.settings`