SoftBodySettings(bpy_struct)

base class — bpy_struct

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

Soft body simulation settings for an object

aero

Make edges ‘sail’

TYPE:

int in [0, 30000], default 0

aerodynamics_type

Method of calculating aerodynamic interaction

- SIMPLE Simple – Edges receive a drag force from surrounding media.
- LIFT_FORCE Lift Force – Edges receive a lift force when passing through surrounding media.

TYPE:

enum in [‘SIMPLE’, ‘LIFT_FORCE’], default ‘SIMPLE’

ball_damp

Blending to inelastic collision

TYPE:

float in [0.001, 1], default 0.0

ball_size

Absolute ball size or factor if not manually adjusted

TYPE:

float in [-10, 10], default 0.0

ball_stiff

Ball inflating pressure

TYPE:

float in [0.001, 100], default 0.0

bend

Bending Stiffness

TYPE:

float in [0, 10], default 0.0

choke

‘Viscosity’ inside collision target

TYPE:

int in [0, 100], default 0

collision_collection

Limit colliders to this collection

TYPE:

Collection

collision_type

Choose Collision Type

- MANUAL Manual – Manual adjust.
- AVERAGE Average – Average Spring length * Ball Size.
- MINIMAL Minimal – Minimal Spring length * Ball Size.
- MAXIMAL Maximal – Maximal Spring length * Ball Size.
- MINMAX AvMinMax – (Min+Max)/2 * Ball Size.

TYPE:

enum in ['MANUAL', 'AVERAGE', 'MINIMAL', 'MAXIMAL', 'MINMAX'], default 'MANUAL'

damping

Edge spring friction

TYPE:

float in [0, 50], default 0.0

effector_weights

TYPE:

EffectorWeights, (readonly)

error_threshold

The Runge-Kutta ODE solver error limit, low value gives more precision, high values speed

TYPE:

float in [0.001, 10], default 0.0

friction

General media friction for point movements

TYPE:

float in [0, 50], default 0.0

fuzzy

Fuzziness while on collision, high values make collision handling faster but less stable

TYPE:

int in [1, 100], default 0

goal_default

Default Goal (vertex target position) value

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 weights are scaled to match this range

TYPE:

float in [0, 1], default 0.0

goal_min

Goal minimum, vertex 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 0.0

gravity

Apply gravitation to point movement

TYPE:

float in [-10, 10], default 0.0

location_mass_center

Location of center of mass

TYPE:

`mathutils.Vector` of 3 items in [-inf, inf], default (0.0, 0.0, 0.0)

mass

General Mass value

TYPE:

float in [0, 50000], default 0.0

plastic

Permanent deform

TYPE:

int in [0, 100], default 0

pull

Edge spring stiffness when longer than rest length

TYPE:

float in [0, 0.999], default 0.0

push

Edge spring stiffness when shorter than rest length

TYPE:

float in [0, 0.999], default 0.0

rotation_estimate

Estimated rotation matrix

TYPE:

`mathutils.Matrix` of 3 * 3 items in [-inf, inf], default ((0.0, 0.0, 0.0), (0.0, 0.0, 0.0), (0.0, 0.0, 0.0))

scale_estimate

Estimated scale matrix

Estimated scale matrix

TYPE:

mathutils.Matrix of 3 * 3 items in [-inf, inf], default ((0.0, 0.0, 0.0), (0.0, 0.0, 0.0), (0.0, 0.0, 0.0))

shear

Shear Stiffness

TYPE:

float in [0, 1], default 0.0

speed

Tweak timing for physics to control frequency and speed

TYPE:

float in [0.01, 100], default 0.0

spring_length

Alter spring length to shrink/blow up (unit %) 0 to disable

TYPE:

int in [0, 200], default 0

step_max

Maximal # solver steps/frame

TYPE:

int in [0, 30000], default 0

step_min

Minimal # solver steps/frame

TYPE:

int in [0, 30000], default 0

use_auto_step

Use velocities for automagic step sizes

TYPE:

boolean, default False

use_diagnose

Turn on SB diagnose console prints

TYPE:

boolean, default False

use_edge_collision

Edges collide too

TYPE:

boolean, default False

use_edges

Use Edges as springs

TYPE:

boolean, default False

use_estimate_matrix

Store the estimated transforms in the soft body settings

TYPE:

boolean, default False

use_face_collision

Faces collide too, can be very slow

TYPE:

boolean, default False

use_goal

Define forces for vertices to stick to animated position

TYPE:

boolean, default False

use_self_collision

Enable naive vertex ball self collision

TYPE:

boolean, default False

use_stiff_quads

Add diagonal springs on 4-gons

TYPE:

boolean, default False

vertex_group_goal

Control point weight values

TYPE:

string, default “”, (never None)

vertex_group_mass

Control point mass values

TYPE:

string, default “”, (never None)

vertex_group_spring

Control point spring strength values

TYPE:

string, default “”, (never None)

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.soft_body
- SoftBodyModifier.settings