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# CurveMapping(bpy\_struct)

base class — [bpy\\_struct](#)

**class** bpy.types.CurveMapping(bpy\_struct)

Curve mapping to map color, vector and scalar values to other values using a user defined curve

## black\_level

For RGB curves, the color that black is mapped to

**TYPE:**

[mathutils.Color](#) of 3 items in [-inf, inf], default (0.0, 0.0, 0.0)

## clip\_max\_x

**TYPE:**

float in [-100, 100], default 0.0

## clip\_max\_y

**TYPE:**

float in [-100, 100], default 0.0

## clip\_min\_x

**TYPE:**

float in [-100, 100], default 0.0

## clip\_min\_y

**TYPE:**

float in [-100, 100], default 0.0

## curves

**TYPE:**

[bpy\\_prop\\_collection](#) of [CurveMap](#), (readonly)

## extend

Extrapolate the curve or extend it horizontally

**TYPE:**

enum in ['HORIZONTAL', 'EXTRAPOLATED'], default 'HORIZONTAL'

## tone

Tone of the curve

- **STANDARD** Standard – Combined curve is applied to each channel individually, which may result in a change of hue.
- **FILMLIKE** Filmlike – Keeps the hue constant.

**TYPE:**

enum in ['STANDARD', 'FILMLIKE'], default 'STANDARD'

## use\_clip

Force the curve view to fit a defined boundary

**TYPE:**

boolean, default False

## white\_level

**map\_curve()**

For RGB curves, the color that white is mapped to

**TYPE:**

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

**update()**

Update curve mapping after making changes

**reset\_view()**

Reset the curve mapping grid to its clipping size

**initialize()**

Initialize curve

**evaluate(curve, position)**

Evaluate curve at given location

**PARAMETERS:**

- **curve** (`CurveMap`, (never None)) – curve, Curve to evaluate
- **position** (*float in  $[-inf, inf]$* ) – Position, Position to evaluate curve at

**RETURNS:**

Value, Value of curve at given location

**RETURN TYPE:**

float in  $[-inf, inf]$

**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.items`
- `bpy_struct.keyframe_delete`

- `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.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

- `Brush.automasking_cavity_curve`
- `Brush.curve`
- `BrushCurvesSculptSettings.curve_parameter_falloff`
- `BrushGpencilSettings.curve_jitter`
- `BrushGpencilSettings.curve_random_hue`
- `BrushGpencilSettings.curve_random_pressure`
- `BrushGpencilSettings.curve_random_saturation`
- `BrushGpencilSettings.curve_random_strength`
- `BrushGpencilSettings.curve_random_uv`
- `BrushGpencilSettings.curve_random_value`
- `BrushGpencilSettings.curve_sensitivity`
- `BrushGpencilSettings.curve_strength`
- `ColorManagedViewSettings.curve_mapping`
- `CompositorNodeCurveRGB.mapping`
- `CompositorNodeCurveVec.mapping`
- `CompositorNodeHueCorrect.mapping`
- `CompositorNodeTime.curve`
- `CurvesModifier.curve_mapping`
- `EQCurveMappingData.curve_mapping`
- `GPencilInterpolateSettings.interpolation_curve`
- `GPencilSculptSettings.multiframe_falloff_curve`
- `GPencilSculptSettings.thickness_primitive_curve`
- `GreasePencilColorModifier.custom_curve`
- `GreasePencilHookModifier.custom_curve`
- `GreasePencilNoiseModifier.custom_curve`
- `GreasePencilOpacityModifier.custom_curve`
- `GreasePencilSmoothModifier.custom_curve`
- `GreasePencilThickModifierData.custom_curve`
- `GreasePencilTintModifier.custom_curve`
- `HookModifier.falloff_curve`
- `HueCorrectModifier.curve_mapping`
- `LineStyleAlphaModifier_AlongStroke.curve`
- `LineStyleAlphaModifier_CreaseAngle.curve`
- `LineStyleAlphaModifier_Curvature_3D.curve`
- `LineStyleAlphaModifier_DistanceFromCamera.curve`
- `LineStyleAlphaModifier_DistanceFromObject.curve`
- `LineStyleAlphaModifier_Material.curve`
- `LineStyleAlphaModifier_Noise.curve`
- `LineStyleAlphaModifier_Tangent.curve`
- `LineStyleThicknessModifier_AlongStroke.curve`
- `LineStyleThicknessModifier_CreaseAngle.curve`
- `LineStyleThicknessModifier_Curvature_3D.curve`
- `LineStyleThicknessModifier_DistanceFromCamera.curve`
- `LineStyleThicknessModifier_DistanceFromObject.curve`
- `LineStyleThicknessModifier_Material.curve`
- `LineStyleThicknessModifier_Tangent.curve`
- `Paint.cavity_curve`
- `ParticleBrush.curve`
- `ParticleSettings.clump_curve`
- `ParticleSettings.roughness_curve`
- `ParticleSettings.twist_curve`
- `RenderSettings.motion_blur_shutter_curve`
- `Sculpt.automasking_cavity_curve`
- `Sculpt.automasking_cavity_curve_op`
- `ShaderNodeFloatCurve.mapping`
- `ShaderNodeRGBCurve.mapping`
- `ShaderNodeVectorCurve.mapping`
- `TextureNodeCurveRGB.mapping`
- `TextureNodeCurveTime.curve`
- `UvSculpt.strength_curve`
- `VertexWeightEditModifier.map_curve`
- `VertexWeightProximityModifier.map_curve`
- `WarpModifier.falloff_curve`

