

# PxrProjector

This node is meant to work in conjunction with PxrProjectionLayer but can be used as a general projection manifold. This manifold supports camera, spherical and cylindrical mapping. It encapsulates 2D parameterization for pattern generators and allows transformations and selection of arbitrary variables bound to primitives.

Input Parameters

## Projection

Select a projection:

- 0: Camera
- 1: Spherical
- 2: Cylindrical

## Coordinate System

Name of coordinate system transform (e.g. place3dTexture node in Maya).



You **must** set a coordinate system. This field can not be left empty.

## Use

Selects the positions you are going to project on.

- 0: P - NP is the current position and N the current normal
- 1: Pref - NrefUse this if your object is deforming and you want the projected texture to 'stick'. This relies on two primvars : \_\_Pref and \_\_Nref that should be present on the deforming geometry. In Maya, use the RenderMan > Primvars > Freeze menu to add them to the selected geometry.
- 2: WPref - WNrefThis will allow your projected texture to stick if the object is deforming AND transformed. It relies on \_\_WPref and \_\_WNref primvars. In Maya, use the RenderMan > Primvars > Freeze menu to add them to the selected geometry.

## OcclusionfrontOnly

Restricts the projection to the points facing the projection direction.

### Front Falloff

Introduces a smooth transition when using frontOnly. Useful to blend transitions between different projections. The default, 0.0, means no falloff.

## Trace Occlusion

Shoots rays to avoid projecting on areas that are occluded by geometry, from the projections point of view.

## Trace Max Distance

When traceOcclusion is on, you can limit the ray length. This number is expressed in scene units, whatever it may be in your authoring package.

## Trace Set

The name of a trace set to restrict ray hits to a specific group of objects. The default is to consider all objects in the scene.

## Camera

### Horizontal Resolution

The horizontal image resolution. This is used to specify your image's original resolution, prior to txmake-ing.

### Vertical resolution

The vertical image resolution. This is used to specify your image's original resolution, prior to txmake-ing.

### Focal Length

The focal length of the camera in degrees.

### Horizontal Aperture

The width of your camera's film back in inches.

### Vertical Aperture

The height of your camera's film back in inches.

### Near Clip Plane

Positions closer than this distance from the coordinate system will be masked. This number is expressed in scene units, whatever it may be in your authoring package.

### Far Clip Plane

Positions farther than this distance from the coordinate system will be masked. This number is expressed in scene units, whatever it may be in your authoring package.

### Film Fit

The way your image is fitted to the film back if they have different aspect ratios. This is mimicking Maya's camera settings.

- 0: Fill
- 1: Horizontal
- 2: Vertical
- 3: overscan

### Clamp To

Activates the mask output. You can mask different areas but this is mostly useful with camera projection.

- 0: Off
- 1: Frustum
- 2: Texture

## 2D Parameters

### Angle

Rotation angle around the origin.

### Scale S

Frequency of feature in the S direction.

### Scale T

Frequency of feature in the T direction.

### Offset S

Offset from the origin in the S direction.

### Offset T

Offset from the origin in the T direction.

### Invert T

Flip the manifold in the T direction.

## Advanced

### Verbose

Outputs various infos to help you debug your scenes.

## Output Parameters

**result**

The 2D manifold.

**resultS**

A float representation of the S component of the manifold.

**resultT**

A float representation of the T component of the manifold.

**resultMask**

A binary mask defining a restricted projection area. Should be plugged into the mask input of PxrProjectionLayer.