

# VRayFurSampler

This page includes details on the Fur Sampler node used with V-Ray Fur.

## Overview

The VRayFurSampler is a utility node that provides extra output attributes which can be used when shading [V-RayFur](#). It is added in the same way as standard Maya utility nodes.

This node allows the mapping and gradation (or ramping) of such attributes as color, transparency, and incandescence along the length of each fur strand, as well as randomizing such attributes on a per-strand basis to create complex and custom fur looks.

An in-depth tutorial for fur sampler setup can be found on the [Fur Sampler Texture Setup](#) page.

UI Path: `||Hypershade|| > Create panel > V-Ray section > Utilities > V-Ray Fur Sampler`

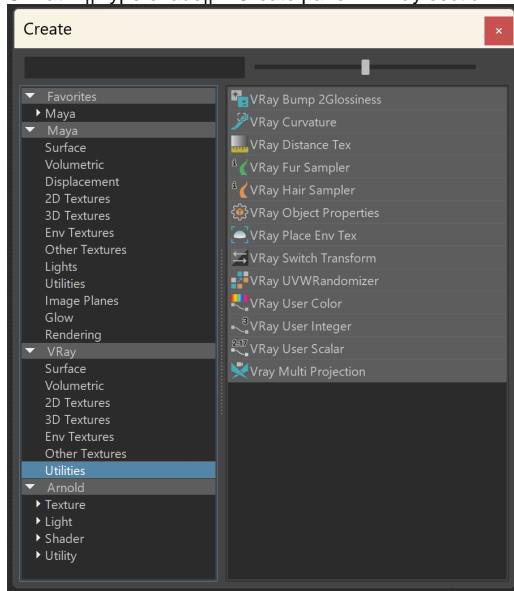


Image courtesy of Sudhir Verma

## Parameters

The Fur Sampler node contains unique outputs listed below. These outputs are accessed by right-clicking the node in the Hypershade window and selecting **Show All Attributes**, or left clicking the output master port and selecting **Other....**

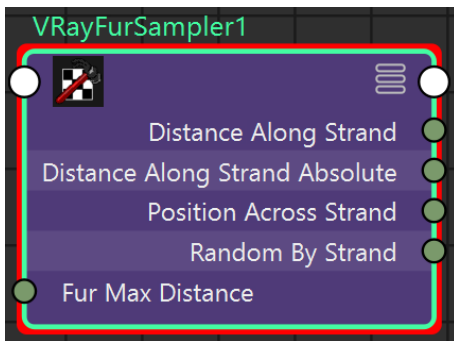
**Distance Along Strand** – Used to control color or information along the length of the strand. Provides information about the shaded part of the fur strand. For the base of the strand, the value is 0.0. For the tip, it is 1.0. With this option, a gradient can be mapped along each strand regardless of each strand's length.

**Distance Along Strand Absolute** – Provides information about the shaded part of the fur strand. This option uses the **Fur Max Distance** parameter to allow length-dependent mapping using absolute distance. For instance, when used with a gradient this allows for all fur strands regardless of length to have a root color all up to the same length followed by the rest of the gradient.

**Position Across Strand** – Allows textures to be mapped across each strand.

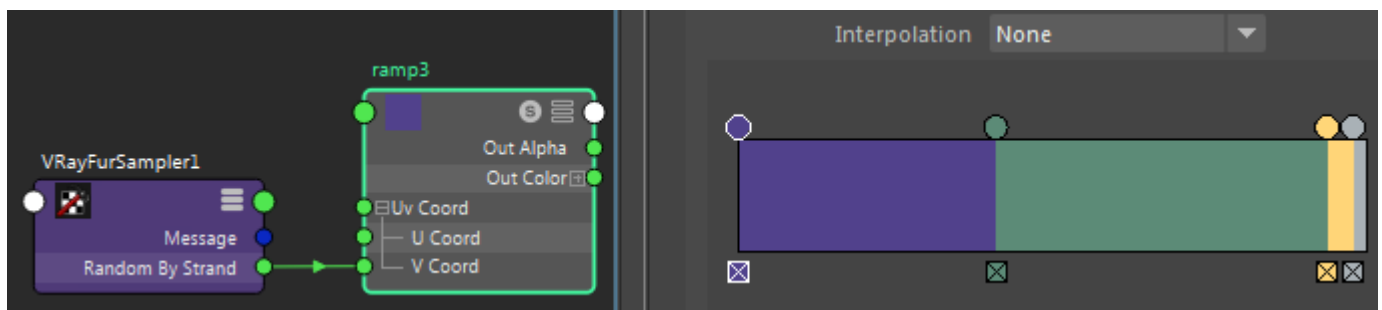
**Random By Strand** – Used to add variation in strands. Provides a unique random floating point value for each strand in the fur system, which allows shading each strand with a random color sampled from a texture.

**Fur Max Distance** – Allows the user to set the max strand length when using **Distance Along Strand Absolute**. Typically, this value should be equal to the longest strand of fur. This option is mappable, allowing different parts in a fur system to have different max lengths.



## Common Setup

The V-Ray Fur Sampler is set up by connecting an output from VRayFurSampler to a 2D driven texture; which is most commonly a Maya ramp node. The images below use the VRayFurSampler's **Random By Strand** attribute to control the V channel of a ramp connected to a VRayMtl's Diffuse Color parameter.

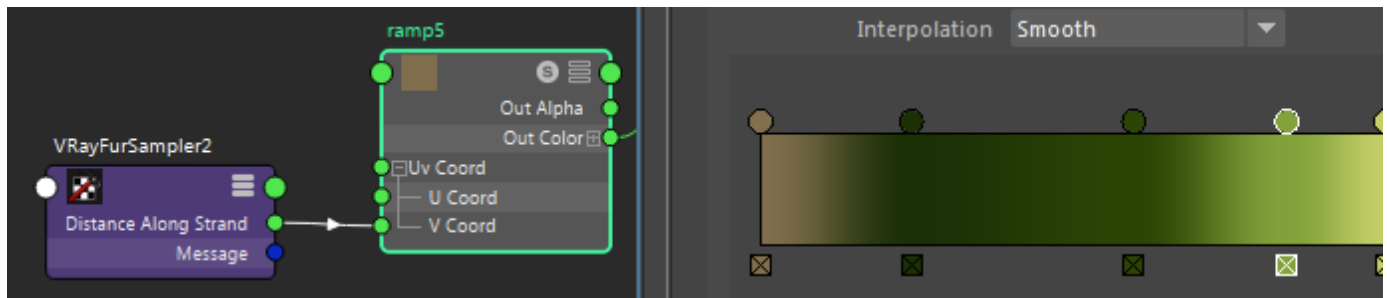


The ramp is driven by the **randomByStrand** parameter  
The ramp is connected to the VRayMtl's **Diffuse Color**  
Multiple Colors set with no interpolation



Resulting Render

Here, VRayFurSampler is used to create variation in the color along the length of a fur's strand to give fur a more natural look. This is done by using the VRayFurSampler's **Distance Along Strand** attribute to control the V channel of a ramp connected to a VRayMtl's Diffuse Color parameter.



The ramp is driven by the distanceAlongStrand parameter  
The ramp is connected to the VRayMtl's Diffuse Color  
Multiple Colors set with smooth interpolation



Resulting Render

## Notes

- When using ramps, there is a strict correlation between plugging V-RayFurSampler into a vCoord and using vRamp, as well as alternatively uCoord + uRamp.