The Ring Component

This component allows you to add rings to your planets and gas giants. You can also use the rings to show orbit paths, or to create asteroid belts.

Ring

Render Queue

This allows you to change the render queue used by the ring material. Consult the official Unity documentation if you're unsure what this means.

Radius

This field allows you to set the centre radius of the ring.

Width

This allows you to change the distance between the inner and outer edges of the ring.

Light Source

If your scene already contains a light source, then this field will automatically be filled in. If not, then create an empty **GameObject** and attach the **Space Graphics Toolkit → Light Source** component.

Texture

You can open the select texture window by pressing the ☉ button. Then depending on your **Sliced** setting type in **'Ring Stretched'** or **'Ring Tiled'**, and you'll see a list of suitable prepackaged textures.

The image below shows a stretched ring texture (Left) and a tiled ring texture (Right).

Note: The stretched ring texture should only have row of pixels (a Y size of 1) for maximum texture memory efficiency.

Note: For improved rendering quality, I recommended that you modify your texture import settings so that the **Filter Mode** is set to **Trilinear**, and you increase the **Aniso Level** value to 4 or more.

Auto Regen

If you tick this then the ring mesh will automatically be regenerated every time you make a modification to this component's settings. The regeneration will take place before the scene is rendered (in LateUpdate).

Regenerate

Note: This button is only visible if you've disabled **Auto Regen**.

If you press this button then your corona mesh will be regenerated.

Sliced

If you tick this then your ring mesh will be sliced up into multiple parts, like a cake. This is necessary for correct depth sorting against planet or gas giant atmospheres. The image below shows you what a gas giant looks like without a sliced ring (left) and what it looks like with a sliced ring (right).
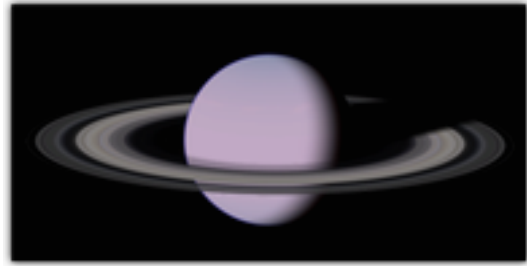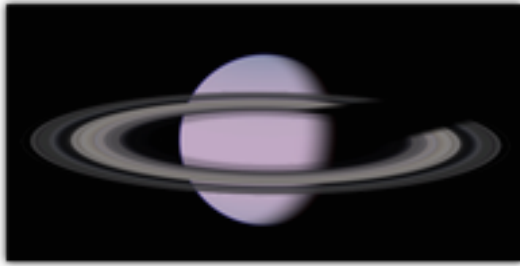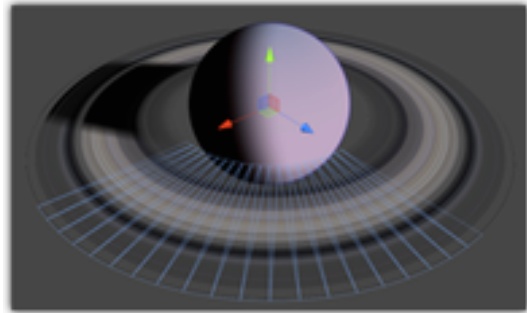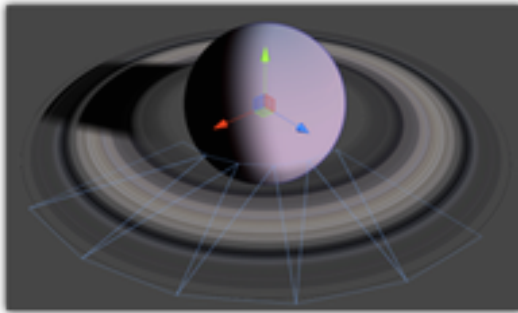
Slices

This field allows you to change the amount of times the ring mesh will be sliced up. For best depth-sorting results you should use a value like 4, or 8.

Segments Per Slice

This field allows you to change the amount of ring segments in each slice. Each ring segment is a quad (two triangles). The image below shows you a ring with 5 **Segments Per Slice** (left), and 20 **Segments Per Slice** (right).


Tiled

If you tick this then the ring texture will be vertically tiled around the surface of the ring.

Texture Repeat

This field allows you to set the amount of times the ring texture will be repeated around each ring slice.

Lit

If you tick this then the brightness of your ring will change based on the where the camera is looking (i.e. you can make the dark side of your ring appear darker than when you look at the front). The image below shows you what a ring looks like with this feature enabled on the light side (left) and on the dark side (right).
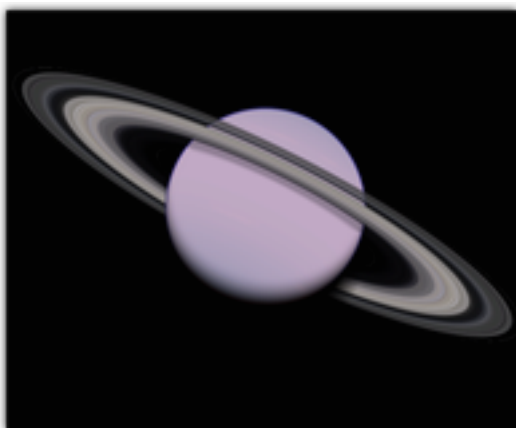

Brightness Min

This field allows you to set the minimum brightness of the ring, this is when the camera is behind it and looking at the light source.

Brightness Max

This field allows you to set the maximum brightness of the ring, this is when the camera is in front of it and looking away from the light source.

Scattering

If you tick this then light will be scattered through the ring texture giving a glow around the light source.
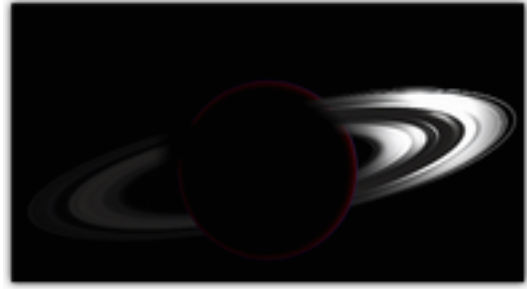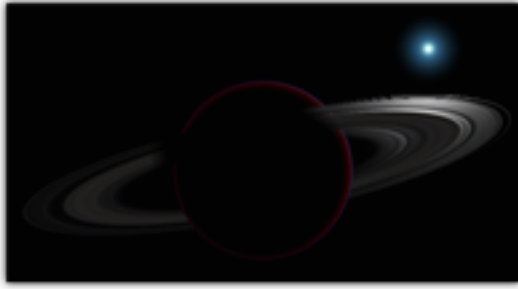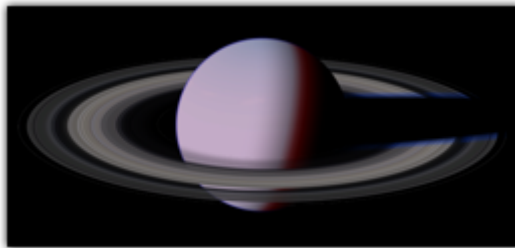
Mie

This field allows you to control the size of the light source glow through the rings. A higher value means the glow will be very small.

Occlusion

This field allows you to change how much incoming light is blocked by the ring texture.

Shadow

If you tick this then a dynamic shadow will be cast on your ring from a planet or gas giant.

Auto Update

If this is ticked then the **Shadow → Radius** field will automatically be filled in from either a **Planet** or **Gas Giant** component.

Note: For this to work, your GameObject must have a **Planet** or **Gas Giant** component attached, if not then untick this and manually update it.

Radius

Note: This field can only be manually modified if Shadow → Auto Update is disabled.

This field allows you to change the radius of the sphere casting a shadow on the ring.

Width

This field allows you to change the penumbra (soft-shadow region) width.

Umbra Colour

This field allows you to change the colour of the umbra (inner, solid-shadow region).

Penumbra Colour

This field allows you to change the colour of the penumbra (outer, soft-shadow region).