# The Asteroid Ring Component

This component allows you to create a very efficient animated asteroid ring with thousands of asteroids.

Note: Due to the performance optimizations you can't really interact with the asteroids (e.g. collide with them).

## Ring

### Asteroid Count

This allows you to set the amount of asteroids in the ring.

### Seed

This allows you to set the random seed used when generating the asteroids

### Distribution

This allows you to change the distribution pattern of your asteroid ring. See the image below for what they look like.
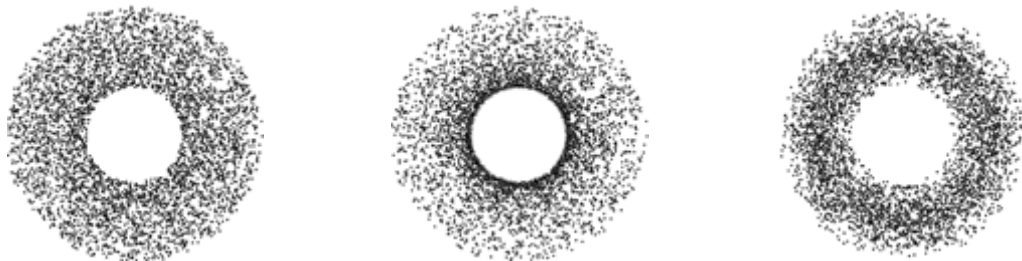
#### ● Uniform

This distribution will place asteroids evenly around the surface of the ring.

#### ● Exponential 2

This distribution will place more asteroids near the inside of the ring.

#### ● Bates 2

This distribution will place more asteroids near the centre of the ring.



### 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.

### Height

This allows you to change the vertical thickness of the asteroid 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.

### 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.

### 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.

# Orbit Rate

## Inner

This allows you to set the rate at which asteroids orbit at the inner edge of your ring.

## Outer

This allows you to set the rate at which asteroids orbit at the outer edge of your ring.

## Deviation

This allows you to change how much the orbit rate can be randomly offset by.

# Asteroid

## Radius Min

This allows you to set the minimum radius of all asteroids in the ring.

## Radius Max

This allows you to set the maximum radius of all asteroids in the ring.
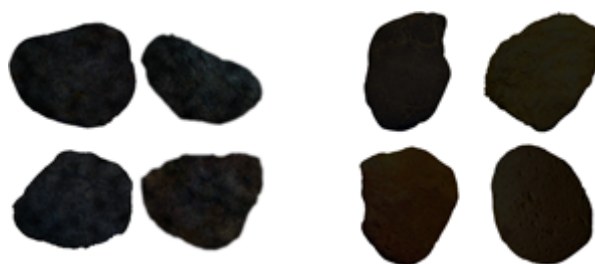
## Texture

### Day

This allows you to set the texture applied to the light side of the asteroids. You can open the select texture window by pressing the ☉ button. Then if you type in **'Asteroid Ring Day'** into the search box, you'll see a list of suitable prepackaged textures.
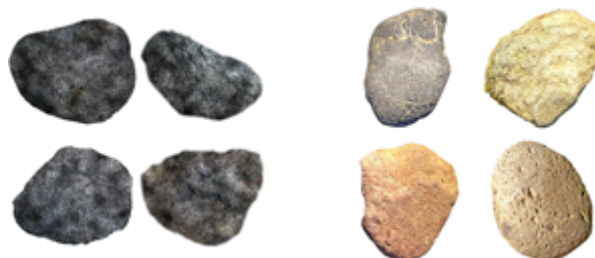


### Night

This allows you to set the texture applied to the dark side of the asteroids. You can open the select texture window by pressing the ☉ button. Then if you type in **'Asteroid Ring Night'** into the search box, you'll see a list of suitable prepackaged textures.



### Height

This allows you to set the texture used to give your asteroids depth. You can open the select texture window by pressing the ☉ button. Then if you type in **'Asteroid Ring Height'** into the search box, you'll see a list of suitable prepackaged textures.
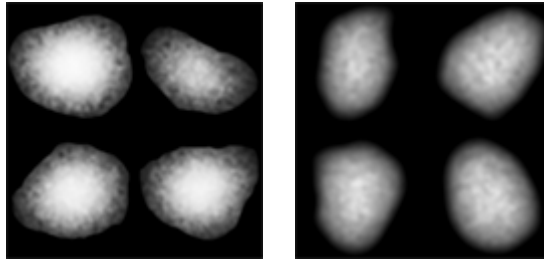
## Tiles

If your asteroid texture is a tilesheet of multiple asteroids then you should set these.



### X

This allows you to set the amount of columns in your asteroid tilesheet textures.

### Y

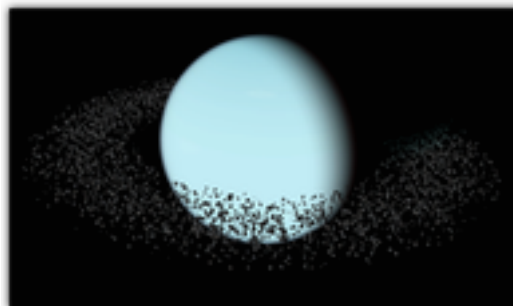This allows you to set the amount of rows in your star tilesheet texture.

## Spin

If you tick this then all the asteroids in your asteroid ring will spin (roll) as they orbit.

### Rate Max

This allows you to set the maximum rate at which asteroids can spin.

## 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).