StellarBackgroundFromTemplate

StellarBackgroundFromTemplate[*templateFile*, *θo*, *imageFile*, *angle*, *Ratio_*:0.8, *bgColor_*:{0.,0.,0.}]
generates an image of stellar background given by *imageFile* distorted by geometry given by the template stored in *templateFile* and *θo*. The image's part *Ratio* (default is 0.8) spans *angle* on the celestial sphere. The background color can be specified in *bgColor* as RGB list of size 3 (default is black).

StellarBackgroundFromTemplate[*templateFile_*, *θo_*, *imageFile_*, *angle_*, *Ratio_*:0.8, *bgColor_*:{0.,0.,0.}] function takes the path to template of the geometry *templateFile*, the observer's *θ* coordinate *θo*, the path to the file containing the undistorted image *imageFile*, the angle of the original image on the celestial sphere *angle*, the ratio between the angle on the celestial sphere of the generated image and the original one *Ratio* (set to 0.8 by default), and the background color *bgColor* given as a list of length three corresponding to the colors RGB code, which should be used whenever the geodesic for a given pixel does not end in the range of the original image (set to {0.,0.,0.} by default).

Tech Notes

KerrImages

Related Links

XXXX

See Also

GenerateTemplate

Related Guides

KerrImages

Examples Initialization

```
Needs["BlackHoleImages`"]
```

Basic Examples

More Examples ▹

Generate a template of a geometry given by the spin parameter *a=0.5* with the observer at *θo*=0.45 *π* using the GenerateTemplate function.
Generate 300 x 150 points with maximal Bardeen coordinate 400:

```
In[1]:= GenerateTemplate[Directory[], "template_a0.5_th0.45pi_size100x100_mBC400", 0.5, 0.45 π, {300, 150}, 400]
```

%

Infinity: Indeterminate expression (0. + 0. *i*) ComplexInfinity encountered.

From the generated template we can generate the distorted image of a stellar background.

```
In[2]:= Import[Directory[] <> "\galaxy.jpg"]
```

Out[2]=

```
In[3]:= img = StellarBackgroundFromTemplate[Directory[] <> "\\template_a0.5_th0.45pi_size100x100_mBC400.mx",
           0.45 π, Directory[] <> "\\galaxy.jpg", π / 6];
        Image[img]
```

Out[4]=

More Examples ⓘ

Metadata

New in: XX | Modified in: | Obsolete in: