

Manual for “*vegas-outliner*”

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Figure 1: HSV scheme color.

vegas-outliner is a python script that shows the final spin structure for a sample. The color of the spin is given by a HSV color, which depends of the angle that form with certain axis and the `color_mode`, which can be polar or azimuthal, given in the options (fig. 1).

1 Requirements

- povray
sudo apt-get install povray
- numpy and click
sudo pip3 install numpy
sudo pip3 install click

2 Usage

python3 vegas-outliner.py [OPTIONS] FILE

FILE is a file, of course, with the format:

x y z type sx sy sz

Each line corresponds to one ion. **x**, **y** and **z** correspond to the spatial position of the particle. **type** can be a string or a number that distinguish the type of the particle. **sx**, **sy** and **sz** correspond to the spin of the particle.

[OPTIONS] can be consulted with python3 vegas-outline.py -help.

It is possible that the options **ratio_x** and **ratio_y** confuse you. For this reason, 2 shows a schematic representation to help you to understand those options.

$$\text{ratio_x} = \frac{R}{r}$$

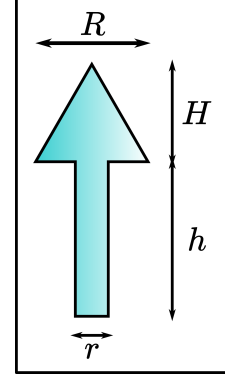


Figure 2: Ratios for the arrows.

```
+ vegas-outliner python3 vegas-outliner.py --help
Usage: vegas-outliner.py [OPTIONS] FILE

Options:
  -W, --width INTEGER          Set the width of the image.
  -H, --height INTEGER         Set the height of the image.
  --camera <FLOAT FLOAT FLOAT>... Set the camera position.
  --radius_spheres FLOAT       Set the radius of the spheres.
  --color_spheres <FLOAT FLOAT FLOAT>... Set the colors of the spheres in normalized
                                     rgb. Each color must be a tuple of 3
  --outfile TEXT               Set the name of the image.
  --radius_cone FLOAT          Set the radius of the cone.
  --ratio_x FLOAT              Set ratio radius_cone/radius_cylinder.
  --ratio_y FLOAT              Set ratio height_cone/height_cylinder.
  --axis [x|y|z]               Set the axis for the hsv colors
  --color_mode [azimuthal|polar] Set the mode for the hsv colors
  --light_source <INTEGER INTEGER INTEGER>... Set the position of the light source
  --help                       Show this message and exit.
```

Figure 3: Options for *vegas-outliner*

$$\text{ratio_y} = \frac{H}{h}$$

ratio_x must be equal or greater than 1.0. Finally, **camera** is the camera spatial position, which always is looking up to the sample centroid.

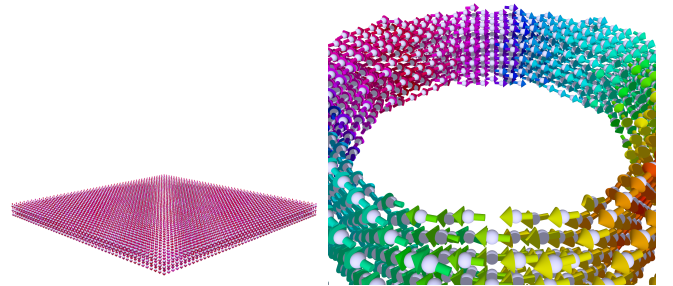


Figure 4: Example for a thin film.

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