In [1]:
```
import numpy  as np
```

In [2]:
```
ones_arr=np.ones([5,5])
```

In [3]:
```
ones_arr
```

Out[3]:
```
array([[1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.]])
```

In [4]:
```
ones_arr_int=np.ones([5,5],dtype=int)
```

In [5]:
```
ones_arr_int
```

Out[5]:
```
array([[1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1]])
```

In [6]:
```
zeros_arr=np.zeros((3,3))
```

In [7]:
```
zeros_arr
```

Out[7]:
```
array([[0., 0., 0.],
       [0., 0., 0.],
       [0., 0., 0.]])
```

In [8]:
```
zeros_arr_int=np.zeros((3,3),dtype=int)
```

In [9]:
```
zeros_arr_int
```

Out[9]:
```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

In [10]:
```
ones_arr
```

Out[10]:
```
array([[1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.],
       [1., 1., 1., 1., 1.]])
```

In [11]:
```
ones_arr*255
```

Out[11]:
```
array([[255., 255., 255., 255., 255.],
       [255., 255., 255., 255., 255.],
       [255., 255., 255., 255., 255.],
       [255., 255., 255., 255., 255.],
       [255., 255., 255., 255., 255.]])
```

In [12]:
```
zeros_arr
```

Out[12]:
```
array([[0., 0., 0.],
       [0., 0., 0.],
       [0., 0., 0.]])
```

In [13]:
```
import matplotlib.pyplot as plt
```

In [14]:
```
%matplotlib inline
```

In [15]:
```
from PIL import Image # python imaging library
```

In [16]:
```
peacock_feather_img=Image.open("C:\Users\Supravata\Desktop\datascience\pdfs\DATA
```

```
  Cell In[16], line 1
    peacock_feather_img=Image.open("C:\Users\Supravata\Desktop\datascience\pdfs\D
ATA_SCIENCE_PHOTOS\peacock_feather_image.webp")
                                                ^
SyntaxError: (unicode error) 'unicodeescape' codec can't decode bytes in position
2-3: truncated \UXXXXXXXX escape
```

In [17]:
```
peacock_feather_img=Image.open(r"C:\Users\Supravata\Desktop\datascience\pdfs\DAT
```

In [18]:
```
peacock_feather_img
```

Out[18]:

In [19]:
```
type(peacock_feather_img)
```

Out[19]:
```
PIL.WebPImagePlugin.WebPImageFile
```

In [20]:
```
peacock_feather_arr=np.asarray(peacock_feather_img)
```

In [21]:
```
peacock_feather_arr
```

Out[21]:
```
array([[[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       ...,

       [[ 5,  3,  1],
        [ 5,  3,  1],
        [ 5,  3,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]]], dtype=uint8)
```

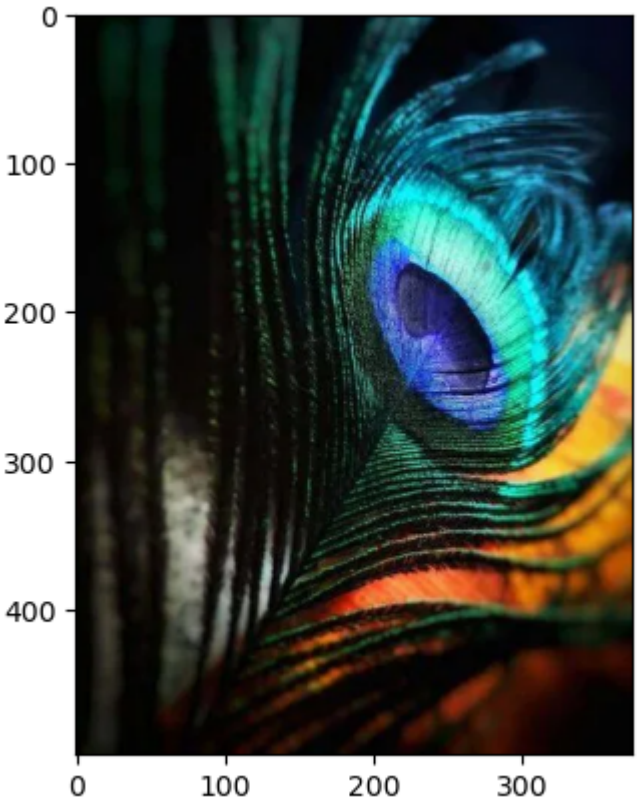
In [22]:
```
type(peacock_feather_arr)
```

Out[22]:
```
numpy.ndarray
```

In [23]:
```
peacock_feather_arr.shape
```

Out[23]: (498, 374, 3)

In [24]:
```
plt.imshow(peacock_feather_arr)
plt.show()
```



In [25]:
```
feather_red=peacock_feather_arr.copy()
```

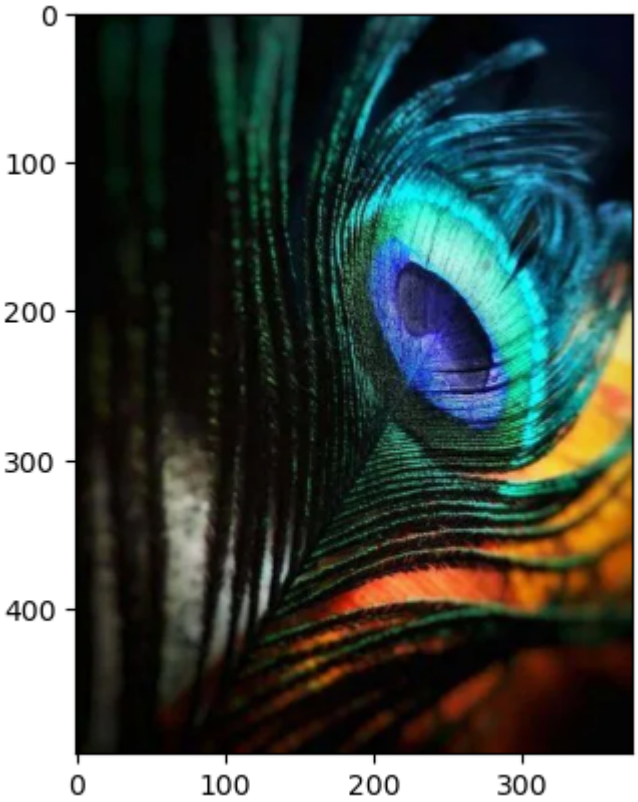
In [26]:
```
feather_red
```

Out[26]:
```
array([[[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       ...,

       [[ 5,  3,  1],
        [ 5,  3,  1],
        [ 5,  3,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]]], dtype=uint8)
```

In [27]:
```
feather_red==peacock_feather_arr
```

Out[27]:
```
array([[[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       ...,

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]]])
```

In [28]:
```
plt.imshow(peacock_feather_arr)
plt.show()
```



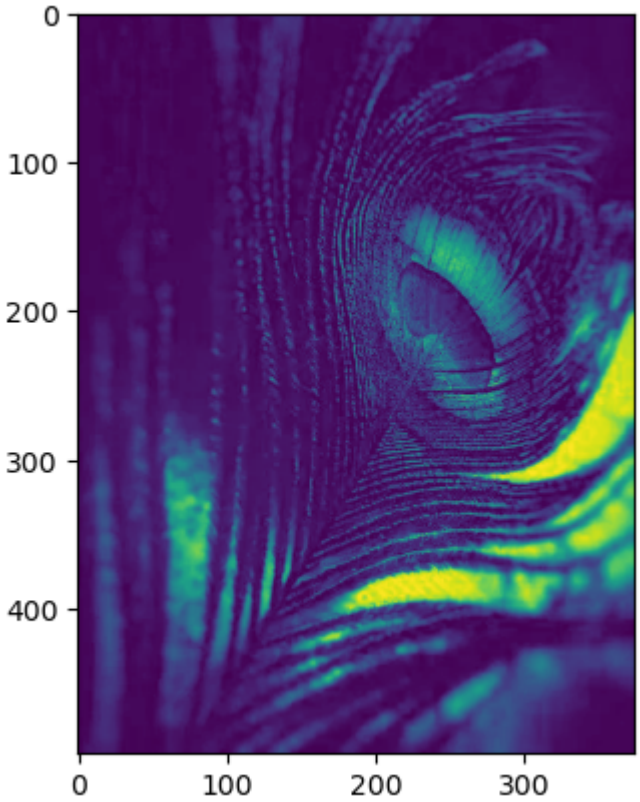
In [29]:
```
feather_red.shape
```

Out[29]:
```
(498, 374, 3)
```

In [30]:
```
plt.imshow(feather_red[:,:,0])
```

Out[30]:
```
<matplotlib.image.AxesImage at 0x214dea78cd0>
```

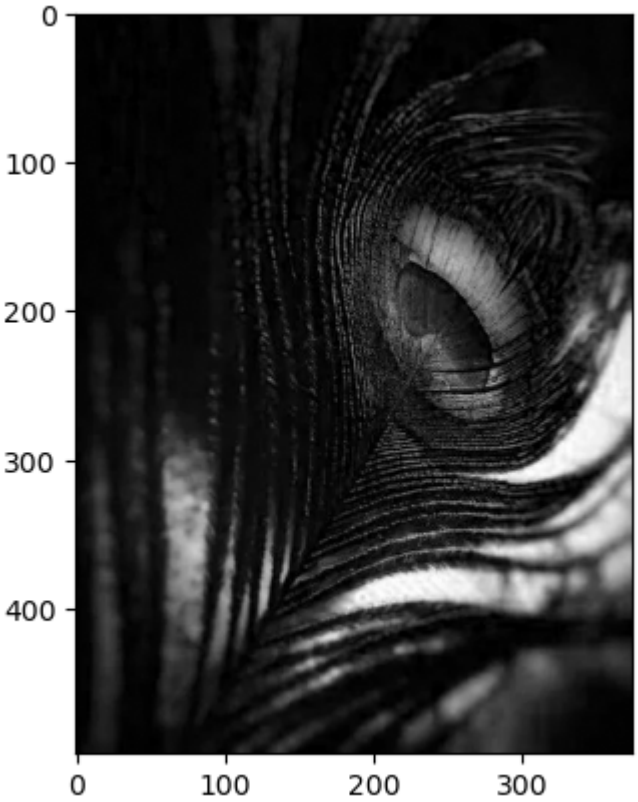
In [31]:
```
#R G B
plt.show()
```



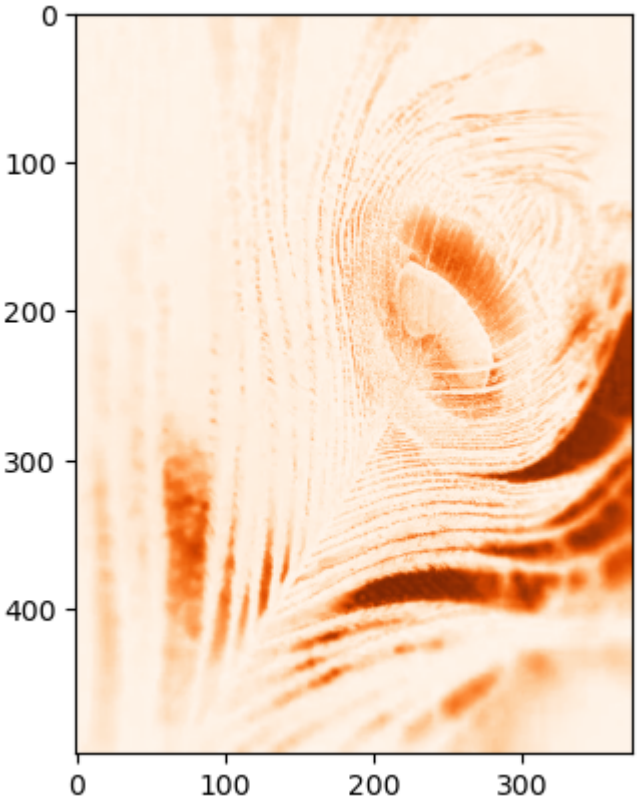
In [32]:
```
feather_red[:,:,0]
```

Out[32]:
```
array([[3, 3, 3, ..., 5, 5, 5],
       [3, 3, 3, ..., 5, 5, 5],
       [3, 3, 3, ..., 5, 5, 5],
       ...,
       [5, 5, 5, ..., 3, 3, 3],
       [3, 3, 3, ..., 3, 3, 3],
       [3, 3, 3, ..., 3, 3, 3]], dtype=uint8)
```

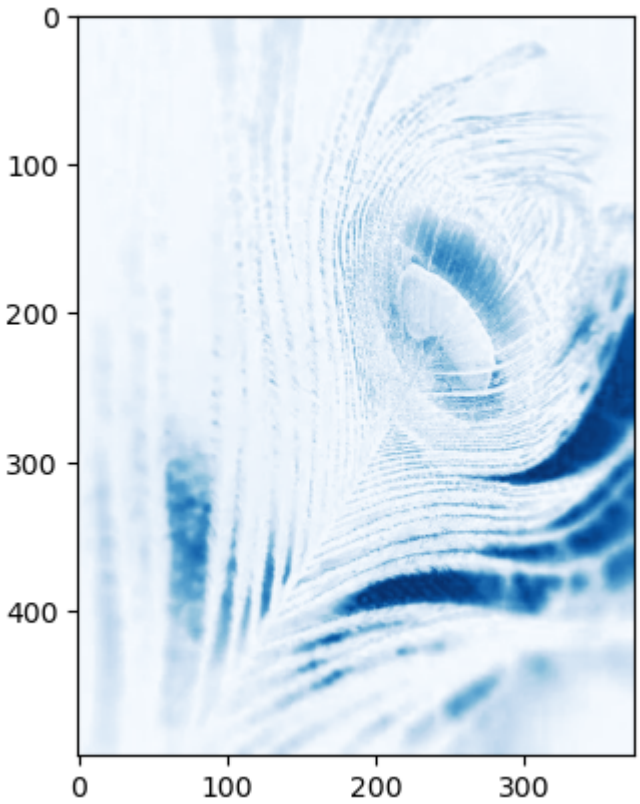
In [33]:
```
plt.imshow(feather_red[:,:,0],cmap='grey')
plt.show()
```



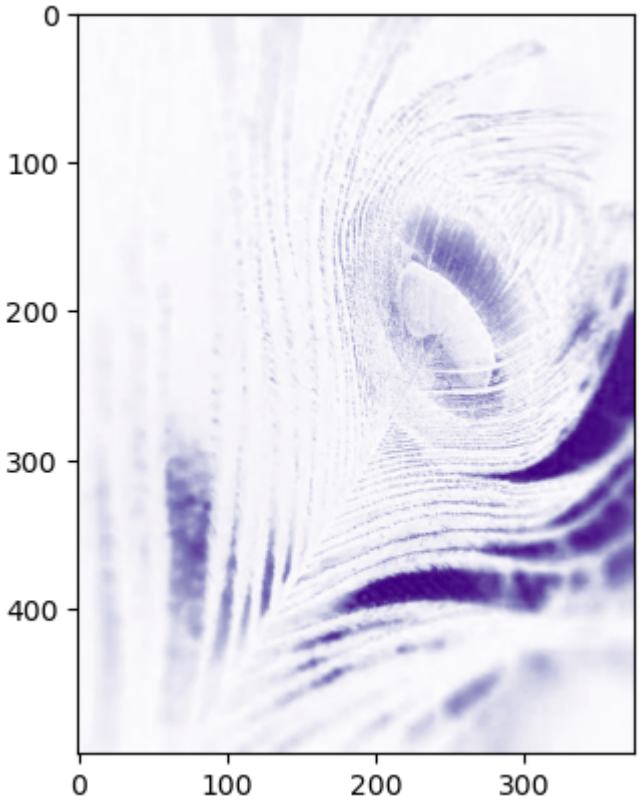
In [34]:
```
plt.imshow(feather_red[:,:,0],cmap='Oranges')
plt.show()
```



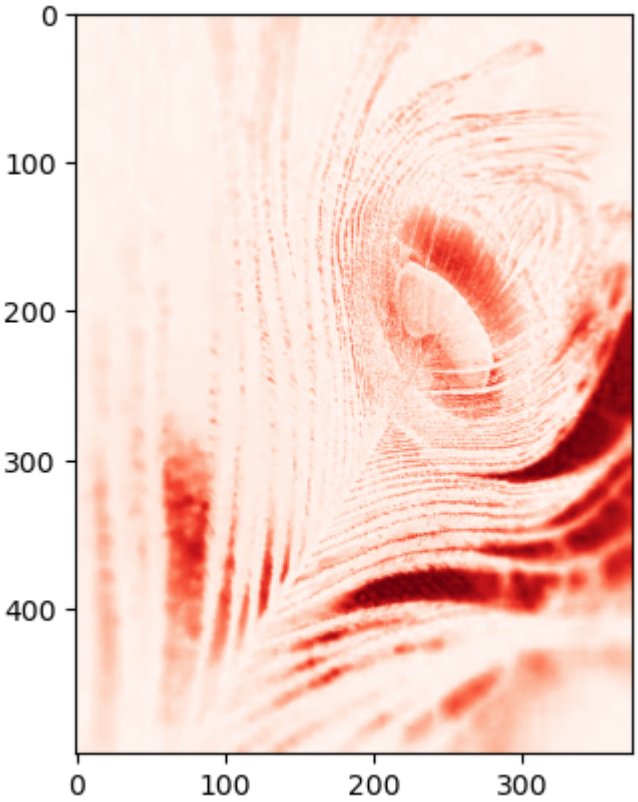
In [35]:
```
plt.imshow(feather_red[:,:,0],cmap='Blues')
plt.show()
```



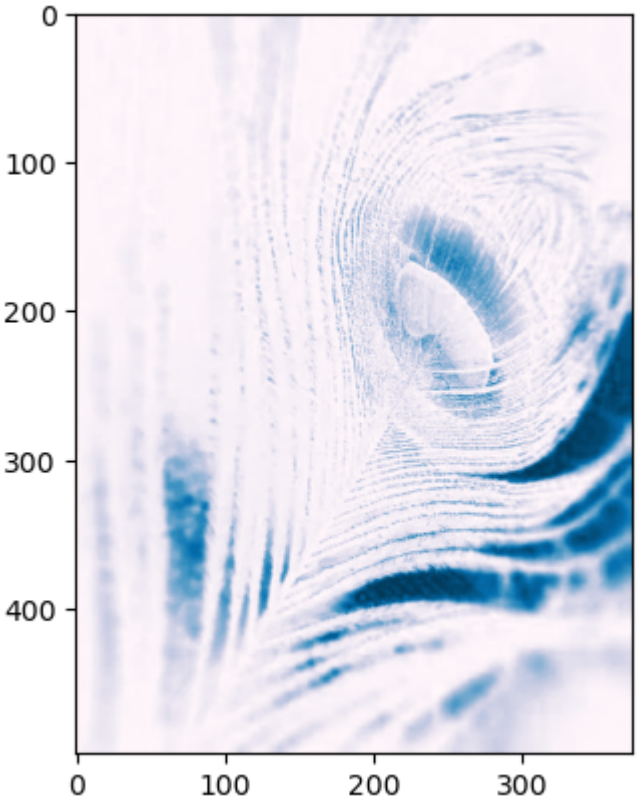
In [36]:
```
plt.imshow(feather_red[:,:,0],cmap='Purples')
plt.show()
```



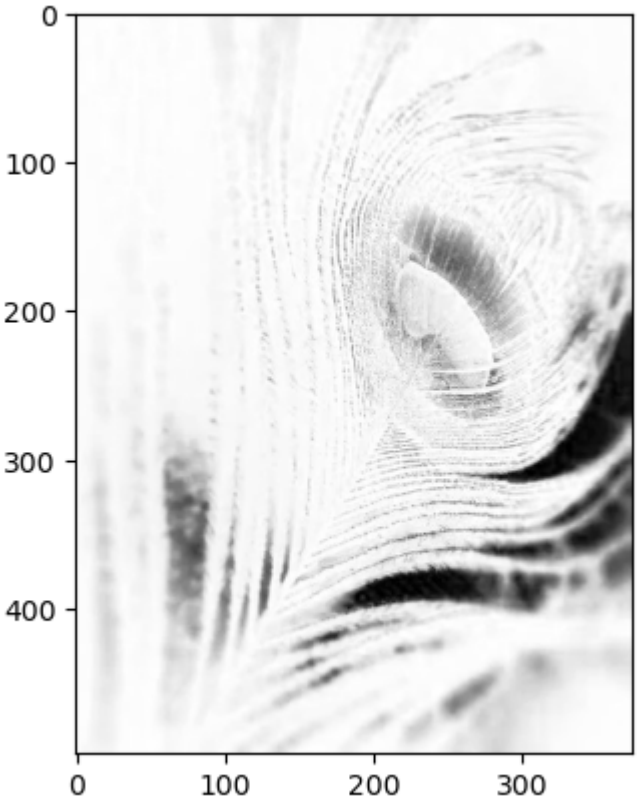
In [37]:
```
plt.imshow(feather_red[:,:,0],cmap='Reds')
plt.show()
```



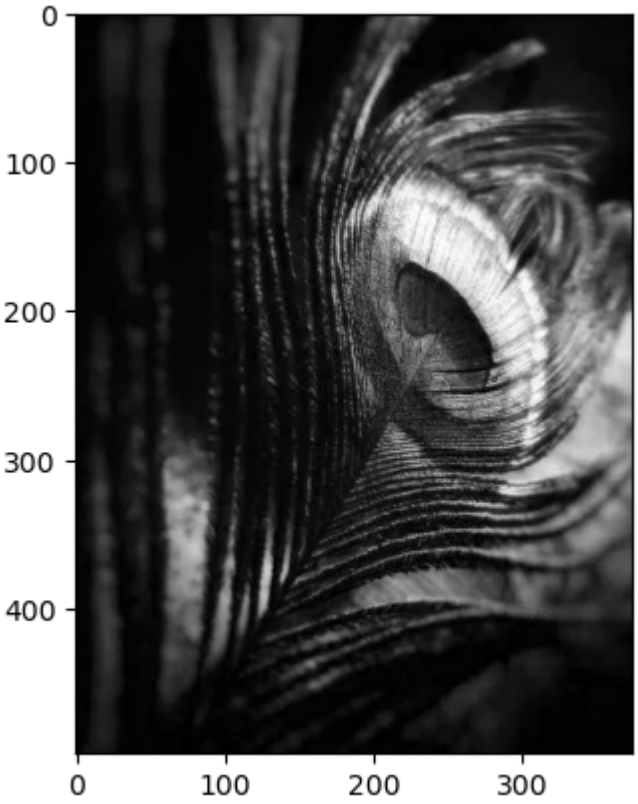
In [38]:
```
plt.imshow(feather_red[:,:,0],cmap='PuBu')
plt.show()
```



In [39]:
```
plt.imshow(feather_red[:,:,0],cmap='Greys')
plt.show()
```



In [40]:
```
plt.imshow(feather_red[:,:,1],cmap='grey')
plt.show()
```



In [41]:
```
feather_red[:,:,0]
```

Out[41]:
```
array([[3, 3, 3, ..., 5, 5, 5],
       [3, 3, 3, ..., 5, 5, 5],
       [3, 3, 3, ..., 5, 5, 5],
       ...,
       [5, 5, 5, ..., 3, 3, 3],
       [3, 3, 3, ..., 3, 3, 3],
       [3, 3, 3, ..., 3, 3, 3]], dtype=uint8)
```

In [42]:
```
feather_red[:,:,1]
```

Out[42]:
```
array([[4, 4, 4, ..., 6, 6, 6],
       [4, 4, 4, ..., 6, 6, 6],
       [4, 4, 4, ..., 6, 6, 6],
       ...,
       [3, 3, 3, ..., 3, 3, 3],
       [4, 4, 4, ..., 3, 3, 3],
       [4, 4, 4, ..., 3, 3, 3]], dtype=uint8)
```

In [43]:
```
feather_red[:,:,2]
```

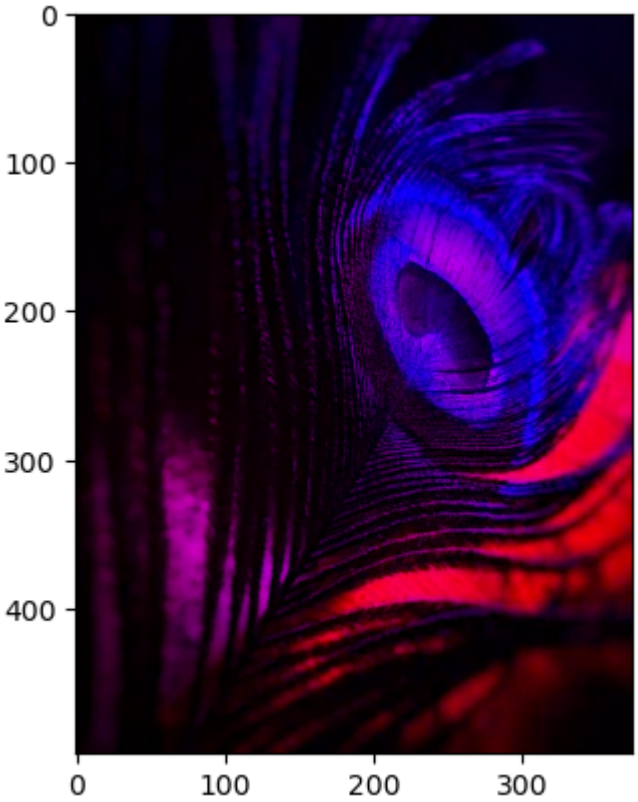
Out[43]:
```
array([[ 0,  0,  0, ..., 26, 26, 26],
       [ 0,  0,  0, ..., 26, 26, 26],
       [ 0,  0,  0, ..., 26, 26, 26],
       ...,
       [ 1,  1,  0, ...,  3,  3,  3],
       [ 1,  1,  0, ...,  3,  3,  3],
       [ 1,  1,  0, ...,  3,  3,  3]], dtype=uint8)
```

In [44]:
```
feather_red[:,:,1] = 0
```

In [45]:
```
feather_red[:,:,1]
```

Out[45]:
```
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=uint8)
```

In [46]:
```
plt.imshow(feather_red)
plt.show()
```



In [47]:
```
feather_red[:,:,2]
```

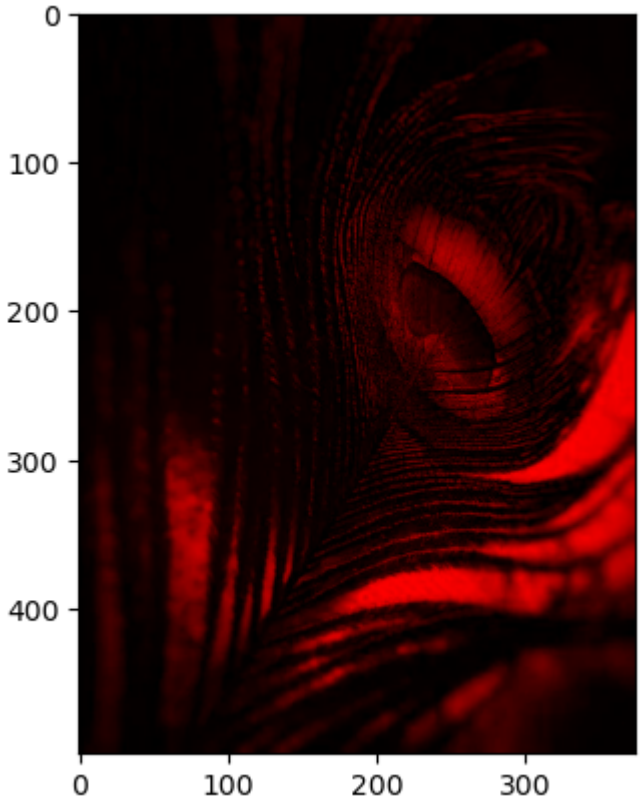
Out[47]:
```
array([[ 0,  0,  0, ..., 26, 26, 26],
       [ 0,  0,  0, ..., 26, 26, 26],
       [ 0,  0,  0, ..., 26, 26, 26],
       ...,
       [ 1,  1,  0, ...,  3,  3,  3],
       [ 1,  1,  0, ...,  3,  3,  3],
       [ 1,  1,  0, ...,  3,  3,  3]], dtype=uint8)
```

In [48]:
```
feather_red[:,:,2] = 0
```

In [49]:
```
feather_red[:,:,2]
```

Out[49]:
```
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=uint8)
```

In [50]:
```
plt.imshow(feather_red)
plt.show()
```



In [51]:
```
arr1=np.asarray(peacock_feather_img)
arr1
```

Out[51]:
```
array([[[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       [[ 3,  4,  0],
        [ 3,  4,  0],
        [ 3,  4,  0],
        ...,
        [ 5,  6, 26],
        [ 5,  6, 26],
        [ 5,  6, 26]],

       ...,

       [[ 5,  3,  1],
        [ 5,  3,  1],
        [ 5,  3,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]],

       [[ 3,  4,  1],
        [ 3,  4,  1],
        [ 3,  4,  0],
        ...,
        [ 3,  3,  3],
        [ 3,  3,  3],
        [ 3,  3,  3]]], dtype=uint8)
```

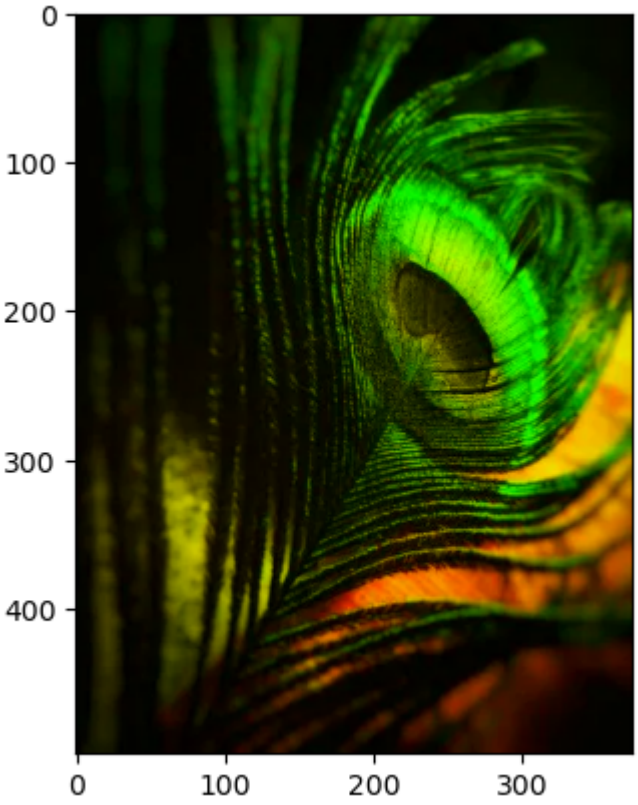
In [52]:
```
arr1.shape
```

Out[52]:
```
(498, 374, 3)
```

In [53]:
```
arr2=arr1.copy()
```

In [54]:
```
arr2[:,:,2] = 0
```

In [55]:
```
plt.imshow(arr2)
plt.show()
```



In [ ]:

In [ ]: