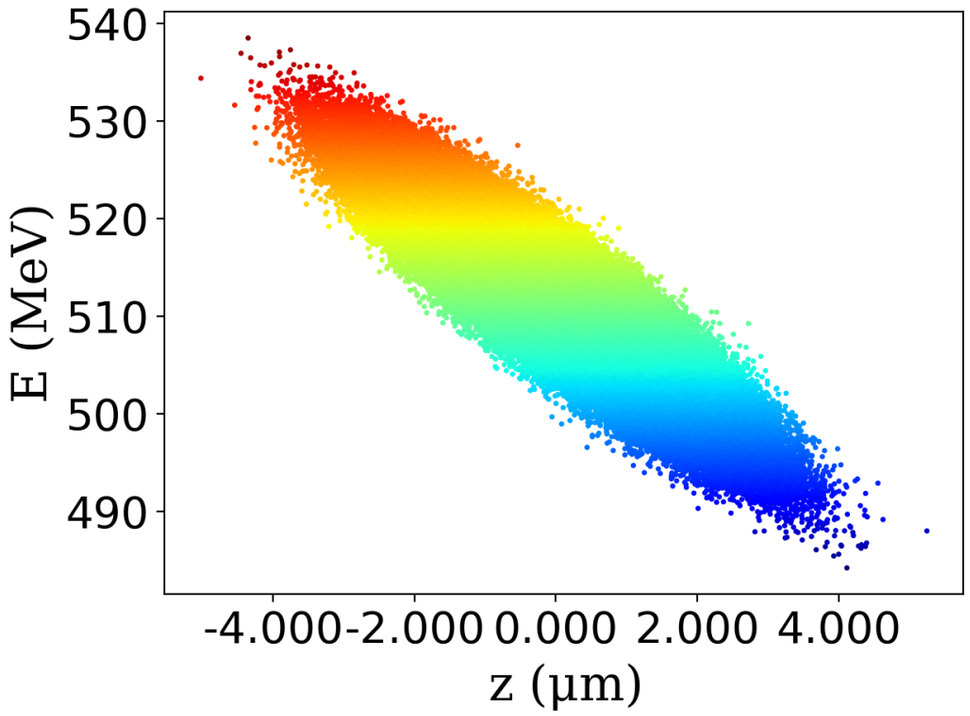
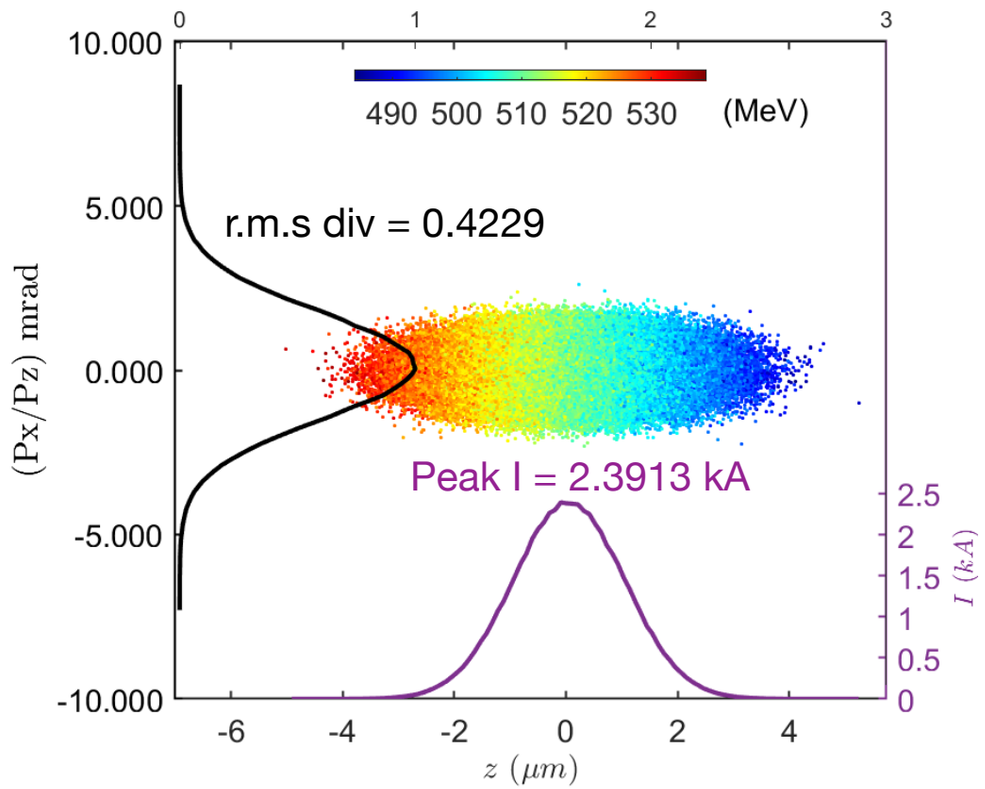
```
# import from Ocelot main modules and functions
from ocelot import *

from ocelot.gui.accelerator import *

from ocelot.adaptors.astra2ocelot import *

print("")

# load and convert ASTRA file to OCELOT beam distribution
p_array_init = astraBeam2particleArray(filename='Astra_format.txt')

print("")
print('No error is loading the beam distribution in ASTRA format.')
print("")

print("p_array_init",p_array_init)

bins_start, hist_start = get_current(p_array_init, num_bins=200)

plt.title("current: end")
plt.plot(bins_start*1e6, hist_start)
plt.xlabel("s, $\mu m$")
plt.ylabel("I, A")
plt.grid(True)
plt.show()
```

Input beam distribution





Beam distribution from Ocelot

```
initializing ocelot...

Astra to Ocelot: charge =  1.999999999974008e-11  C
Astra to Ocelot: particles number =  1000000
Astra to Ocelot: energy =  0.5167988454320525  GeV
Astra to Ocelot: s pos =  -1.193e-06  m

No error is loading the beam distribution in ASTRA format.

p_array_init ParticleArray:
Ref. energy : 0.5168 GeV
Ave. energy : 1.0263 GeV
std(x)      : 0.001 mm
std(px)     : 0.493 mrad
std(y)      : 0.001 mm
std(py)     : 0.493 mrad
std(p)      : 0.0111
std(tau)    : 0.001 mm
Charge      : 0.02 nC
s pos       : -1.193e-06 m
n particles : 1000000
```

Same as input

Same as input

Same as input

Same as input