```
import karabo_data as kd

exmpl_file = '/gpfs/exfel/exp/XMPL/201750/p700000/proc/r0273/CORR-R0273-AGIPD03-S00000.h5'

hdf5_file = kd.H5File(exmpl_file)

train_id, train_data = hdf5_file.train_from_index(10)

train_id

type(train_data)

train_data.keys()

det_data = train_data['SPB_DET_AGIPD1M-1/DET/3CH0:xtdf']

sorted(det_data.keys())

img = det_data['image.data']

img

img.shape

import matplotlib.pyplot as plt

plt.imshow(img[2].T, vmin=-50, vmax=1500)

run_dir = '/gpfs/exfel/exp/XMPL/201750/p700000/raw/r0273'

run = kd.RunDirectory(run_dir)

sorted(run.selection.keys())

ph_flux = run.get_series('SPB_XTD9_XGM/XGM/DOOCS', 'pulseEnergy.photonFlux.value')

type(ph_flux)

ph_flux.plot()

beam_pos = run.get_dataframe(fields=[('*XGM/DOOCS', '*')])

beam_pos.head()

type(beam_pos)

beam_pos.plot.scatter(x='SA1_XTD2_XGM/XGM/DOOCS/beamPosition.iyPos', y='SPB_XTD9_XGM/XGM/DOOCS/b

xgm_data = run.get_array('SPB_XTD9_XGM/XGM/DOOCS:output', 'data.intensityTD')

xgm_data

plt.imshow(xgm_data[:, :120].T, origin='lower')
```