

Auto-encoder of the quark-gluon events

April 1, 2024

[]:

```
[1]: import os
import h5py
import matplotlib.pyplot as plt
import numpy as np
from tqdm import tqdm
import torch
import torch.nn as nn
import torch.optim as optim
from torch.utils.data import DataLoader, Dataset
from torchvision import transforms
from torchvision.transforms import functional as F
```

```
[2]: def show_image(image, ind, epoch):
    image = image.permute(1, 2, 0)
    fig, axes = plt.subplots(1, 4, figsize=(16, 4))
    titles = ["Tracks", "ECAL", "HCAL"]

    for i in range(3):
        axes[i].imshow(image[:, :, i], cmap="viridis")
        axes[i].set_title(titles[i])
        axes[i].axis("off")

    axes[3].imshow(image * 255)
    axes[3].set_title("Combined")
    axes[3].axis("off")

    plt.tight_layout(pad=2.0)

    plt.show()
    plt.close(fig)
```

```
[3]: class CustomDataset(Dataset):
    def __init__(self, X, y):
        self.X = X
        self.y = y
```

```

# Normalize each image so that the sum of pixel intensities is 1
self.transform = transforms.Compose(
    [transforms.Lambda(lambda x: x / torch.sum(x, dim=(0, 1, 2)))]
)

def __len__(self):
    return len(self.X)

def __getitem__(self, idx):
    image = self.X[idx]
    padded_image = np.zeros((128, 128, 3), dtype=np.float32)
    padded_image[: image.shape[0], : image.shape[1], :] = image

    return self.transform(
        torch.tensor(padded_image).permute(2, 0, 1),
        torch.tensor(self.y[idx])
    )

class Autoencoder(nn.Module):
    def __init__(self):
        super(Autoencoder, self).__init__()
        self.encoder = nn.Sequential(
            nn.Conv2d(3, 16, 3, stride=2, padding=1),
            nn.ReLU(),
            nn.Conv2d(16, 32, 3, stride=2, padding=1),
            nn.ReLU(),
            nn.Conv2d(32, 64, 7),
        )
        self.decoder = nn.Sequential(
            nn.ConvTranspose2d(64, 32, 7),
            nn.ReLU(),
            nn.ConvTranspose2d(32, 16, 3, stride=2, padding=1, output_padding=1),
            nn.ReLU(),
            nn.ConvTranspose2d(16, 3, 3, stride=2, padding=1, output_padding=1),
            nn.Sigmoid(),
        )

    def forward(self, x):
        x = self.encoder(x)
        x = self.decoder(x)
        return x

```

```
[ ]: with h5py.File(os.path.expanduser("~/data/quark-gluon_data-set_n139306.hdf5"), "r") as f:
    X = np.array(f["X_jets"])

```

```

y = np.array(f["y"])

train_dataset = CustomDataset(X[:40000], y[:40000])
train_loader = DataLoader(train_dataset, batch_size=64, shuffle=True)

val_dataset = CustomDataset(X[40000:], y[40000:])
val_loader = DataLoader(val_dataset, batch_size=64, shuffle=False)

model = Autoencoder()

criterion = nn.BCELoss() # nn.MSELoss()
optimizer = optim.Adam(model.parameters(), lr=0.0003)

random_indices = np.random.choice(len(val_dataset), size=20, replace=False)
random_images = torch.stack([val_dataset[i][0] for i in random_indices])

best_loss = 1
best_epoch = -1
num_epochs = 300
for epoch in range(num_epochs):
    print(f"epoch: {epoch+1}")
    running_loss = 0.0
    for images, _ in tqdm(train_loader):
        optimizer.zero_grad()
        reconstructions = model(images)
        loss = criterion(reconstructions, images)
        loss.backward()
        optimizer.step()
        running_loss += loss.item()
    train_loss = running_loss / len(train_loader)
    print(f"train_loss: {train_loss}")

    """
    val_loss = 0.0
    for images, _ in val_loader:
        optimizer.zero_grad()
        reconstructions = model(images)
        loss = criterion(reconstructions, images)
        val_loss += loss.item()
    print(f"val_loss: {running_loss / len(val_loader)}")
    """

    if not (epoch + 1) % 5:
        with torch.no_grad():
            reconstructed_images = model(random_images)
            print('=' * 20)
            for i in range(5):
                print('Sample #{}' % i)

```

```

        show_image(random_images[i], i, -1)
        show_image(reconstructed_images[i], i, epoch)

    if train_loss < best_loss:
        best_loss = train_loss
        best_epoch = epoch
        torch.save(
            {"model_state_dict": model.state_dict()},
            "best_model.pth",
        )

    elif epoch - best_epoch > 10:
        print("Early stopped training at epoch %d" % epoch)
        break

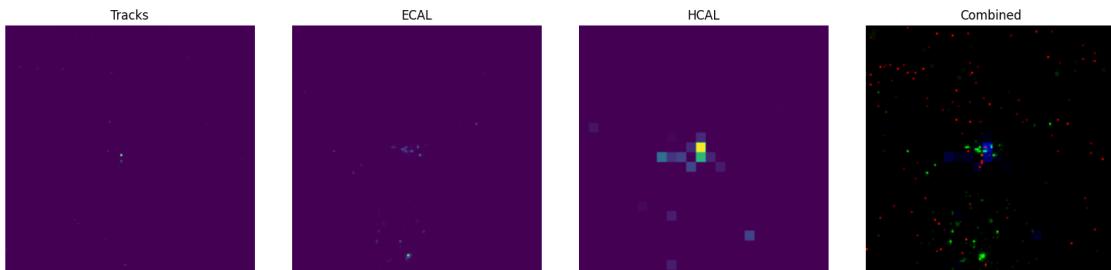
```

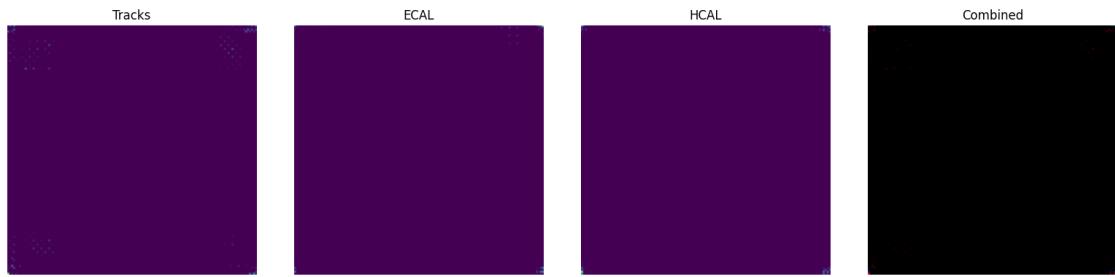
```

epoch: 1
100%|          | 625/625 [28:39<00:00,  2.75s/it]
train_loss: 0.03246450614165515
epoch: 2
100%|          | 625/625 [40:52<00:00,  3.92s/it]
train_loss: 0.0019507485050708055
epoch: 3
100%|          | 625/625 [42:18<00:00,  4.06s/it]
train_loss: 0.0019496464380994438
epoch: 4
100%|          | 625/625 [38:43<00:00,  3.72s/it]
train_loss: 0.0019154714060947299
epoch: 5
100%|          | 625/625 [19:47<00:00,  1.90s/it]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0018382432445883752
=====
Sample #0

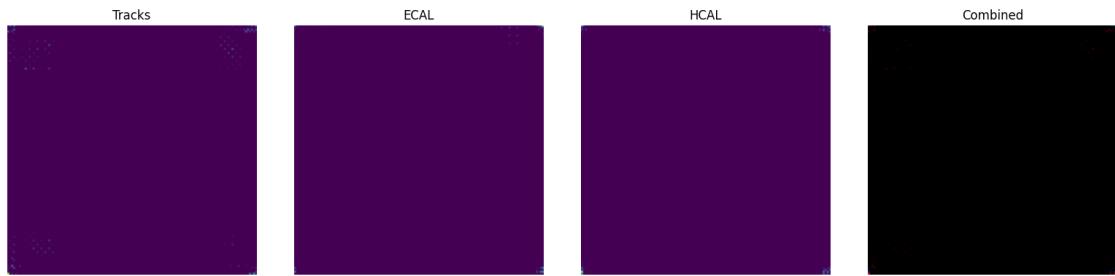
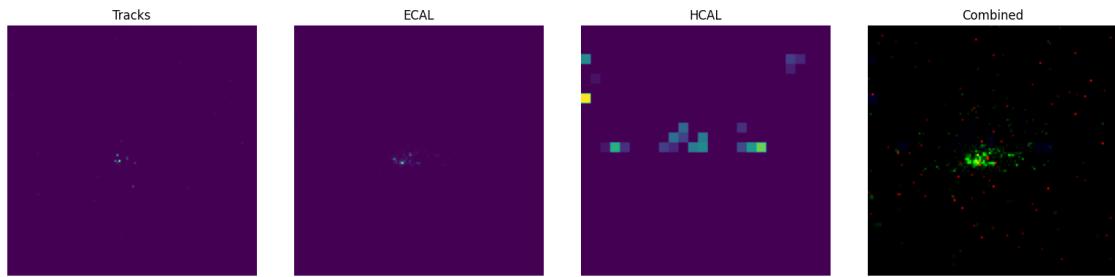
```





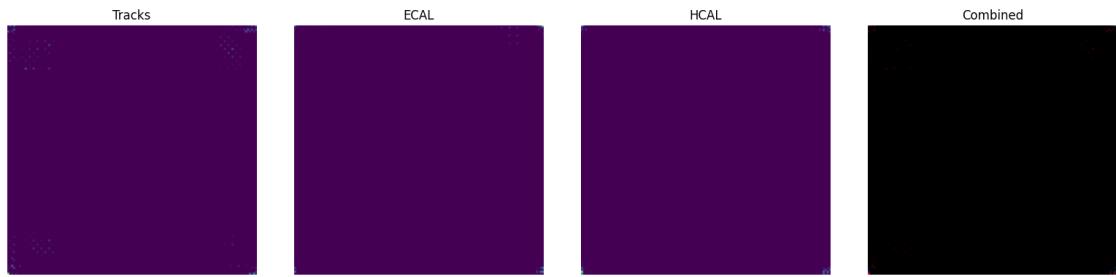
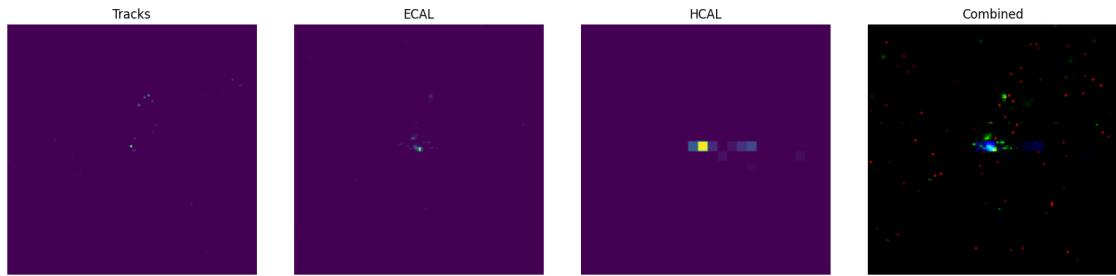
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1



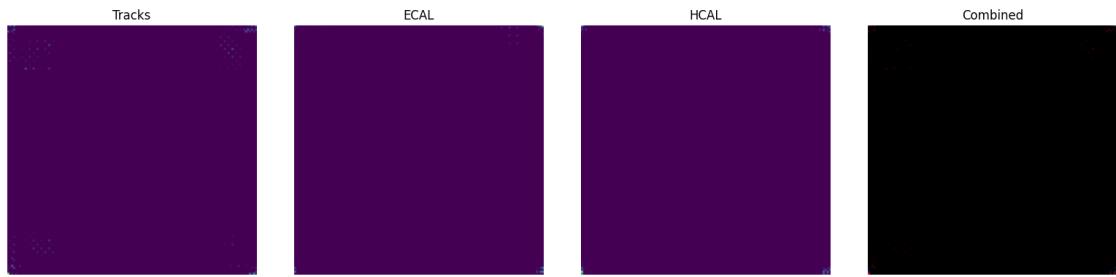
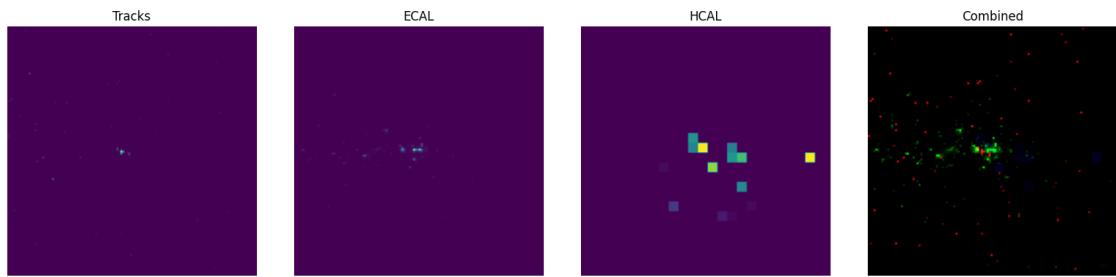
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2



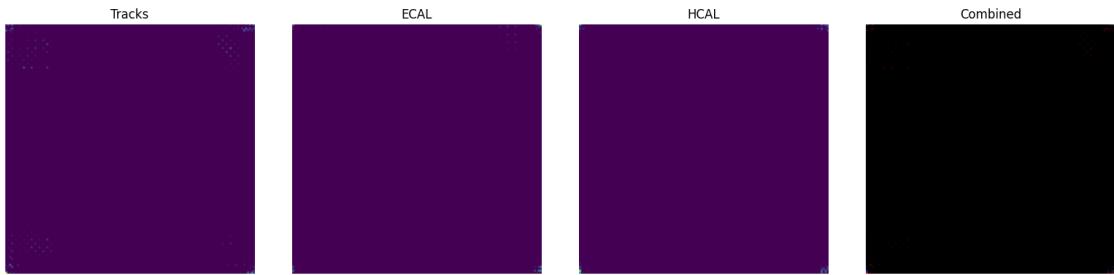
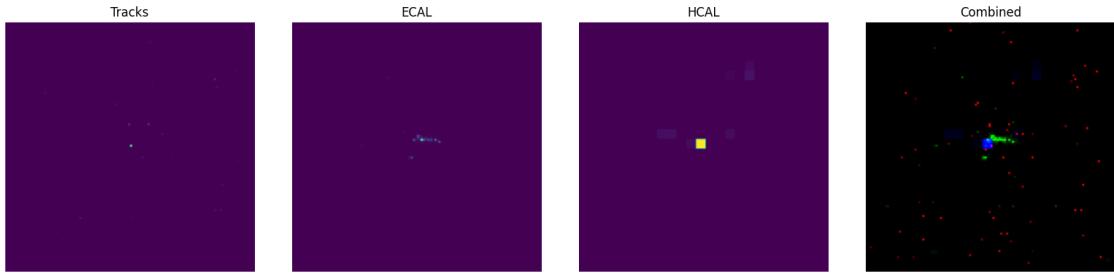
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



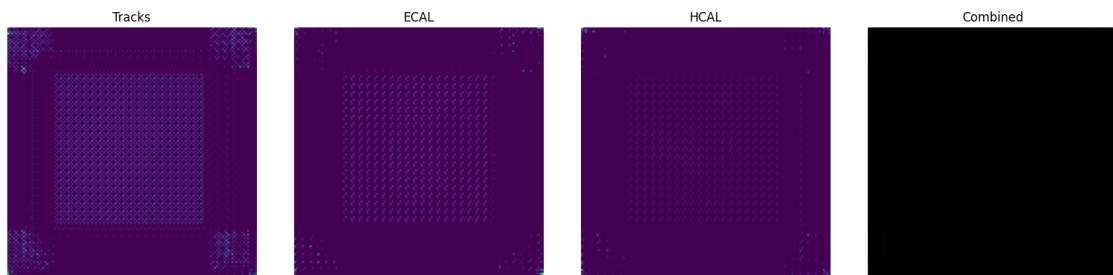
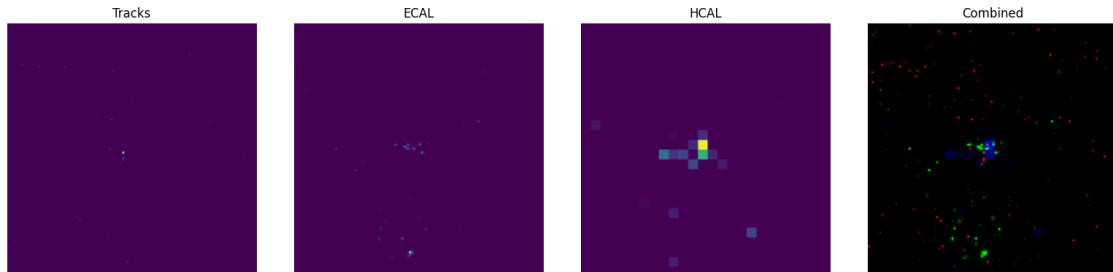
```
epoch: 6
100%| 625/625 [06:41<00:00, 1.56it/s]
train_loss: 0.0016189443586394191
epoch: 7
100%| 625/625 [06:40<00:00, 1.56it/s]
train_loss: 0.0014445078138262033
epoch: 8
100%| 625/625 [06:40<00:00, 1.56it/s]
train_loss: 0.001375364099815488
epoch: 9
100%| 625/625 [06:34<00:00, 1.58it/s]
train_loss: 0.0013285582289099694
epoch: 10
100%| 625/625 [06:36<00:00, 1.58it/s]
```

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

```
train_loss: 0.001255469561740756
```

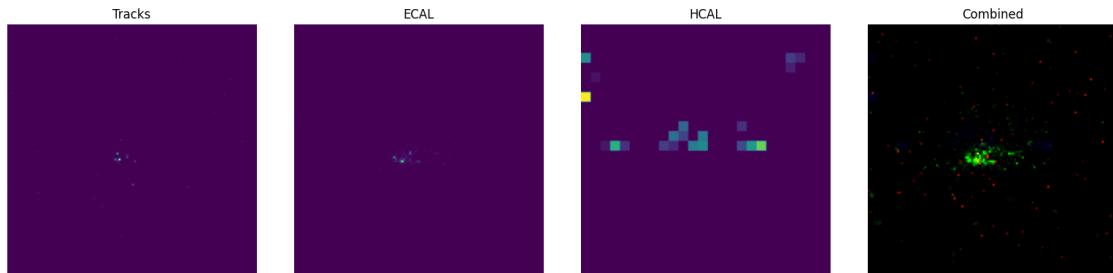
```
=====
```

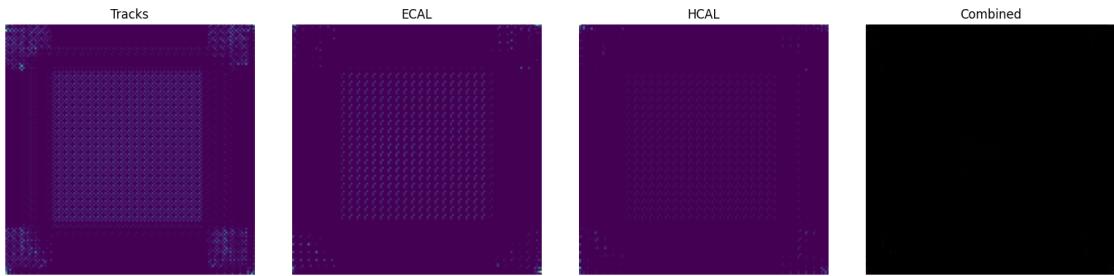
```
Sample #0
```



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

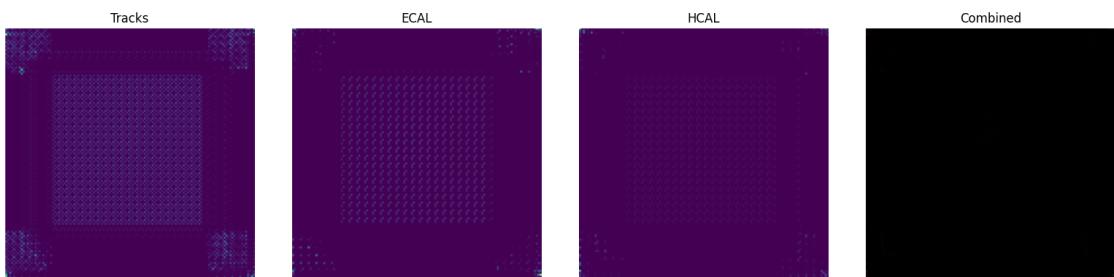
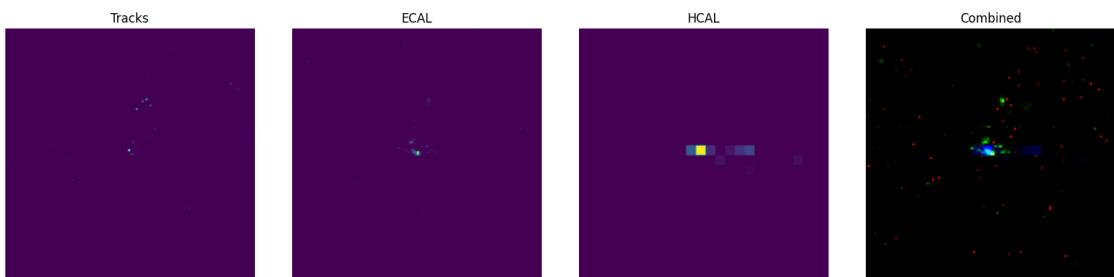
```
Sample #1
```





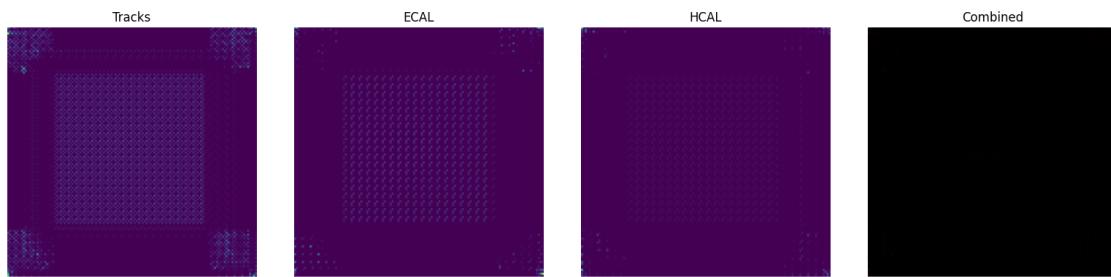
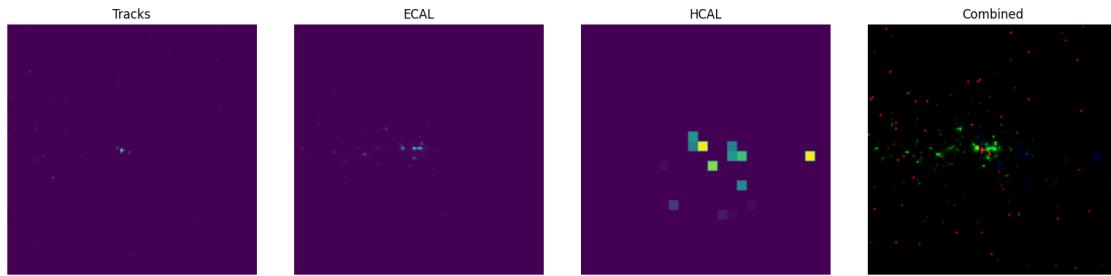
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2



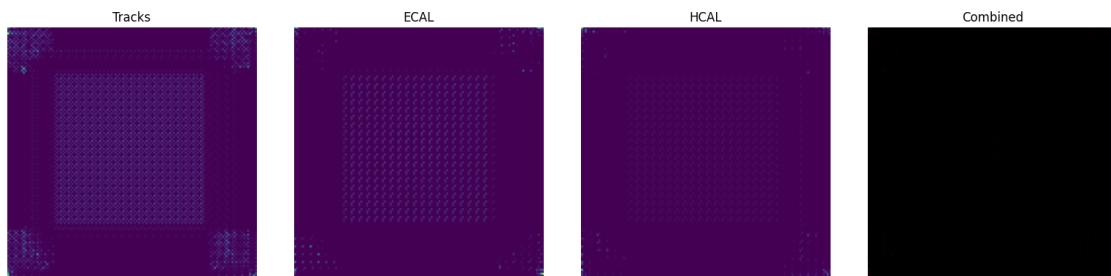
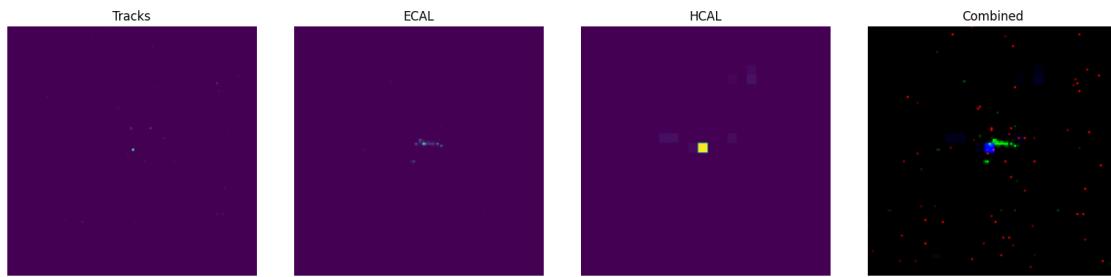
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3



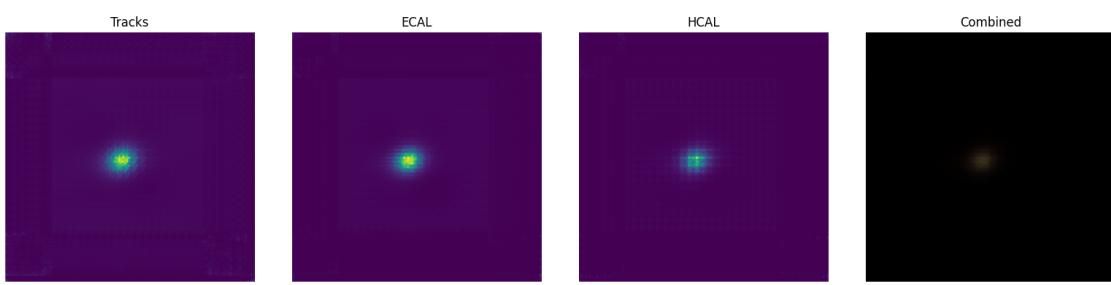
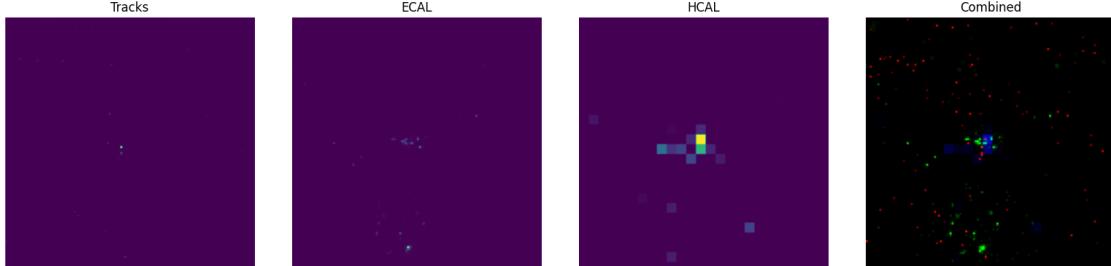
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



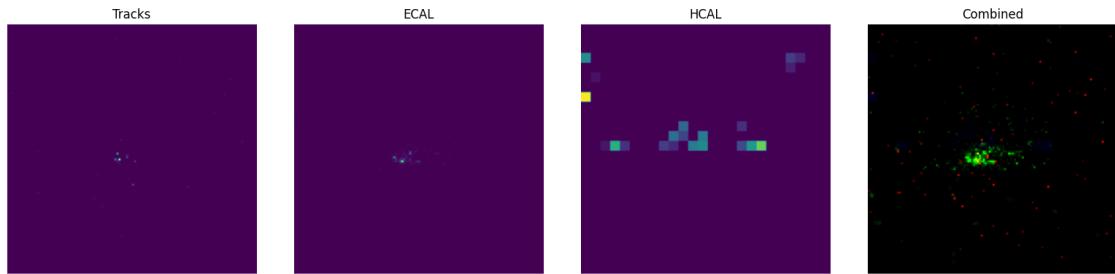
```
epoch: 11
100%|                                     | 625/625 [06:37<00:00, 1.57it/s]
train_loss: 0.0011750369042158126
epoch: 12
100%|                                     | 625/625 [06:39<00:00, 1.57it/s]
train_loss: 0.0009723641709424555
epoch: 13
100%|                                     | 625/625 [06:25<00:00, 1.62it/s]
train_loss: 0.000502248629881069
epoch: 14
100%|                                     | 625/625 [06:13<00:00, 1.67it/s]
train_loss: 0.000212832837481983
epoch: 15
100%|                                     | 625/625 [06:12<00:00, 1.68it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00019686177936382591
=====
Sample #0
```

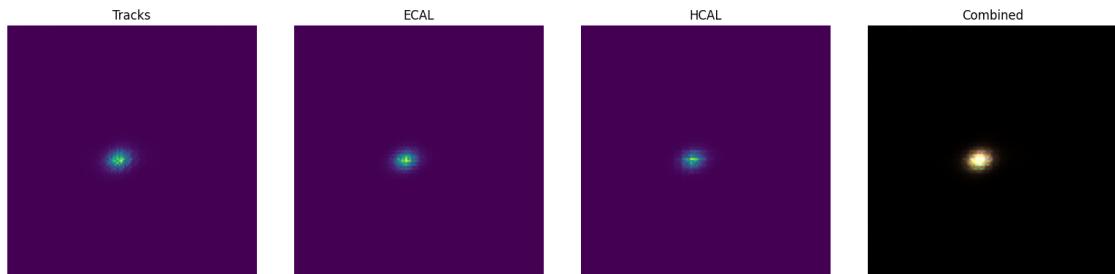


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

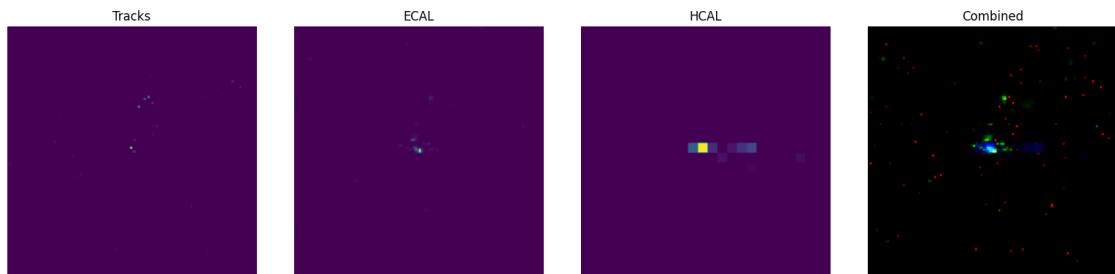


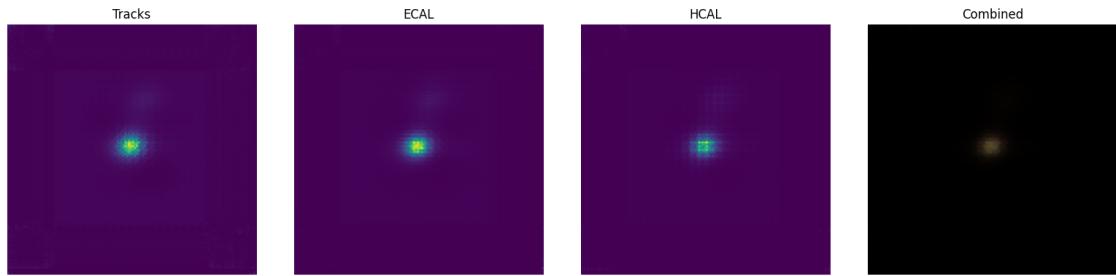
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

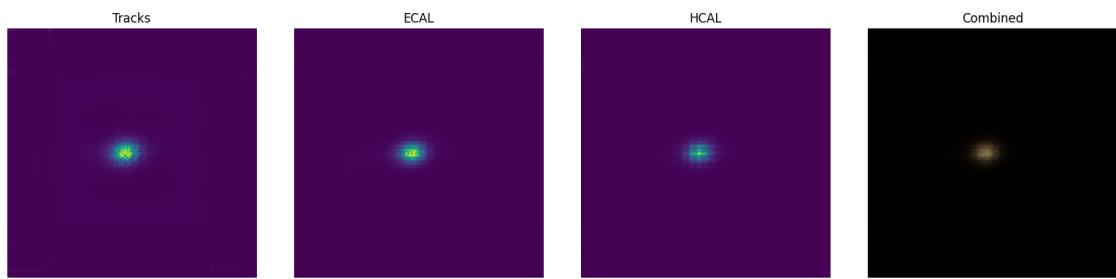
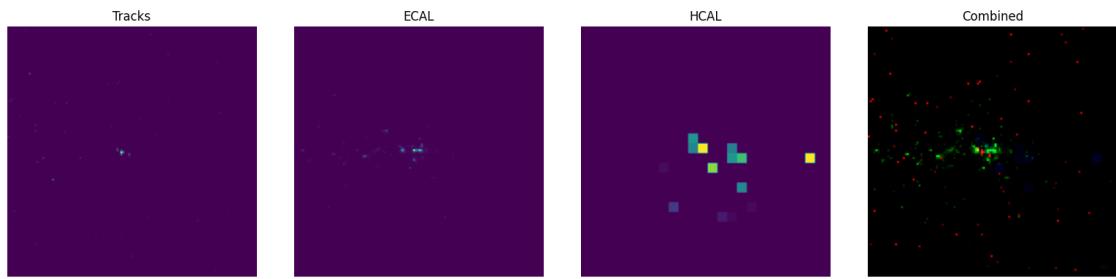
Sample #2





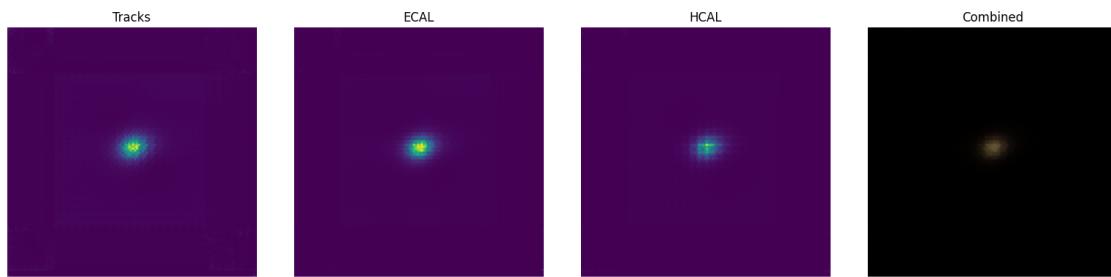
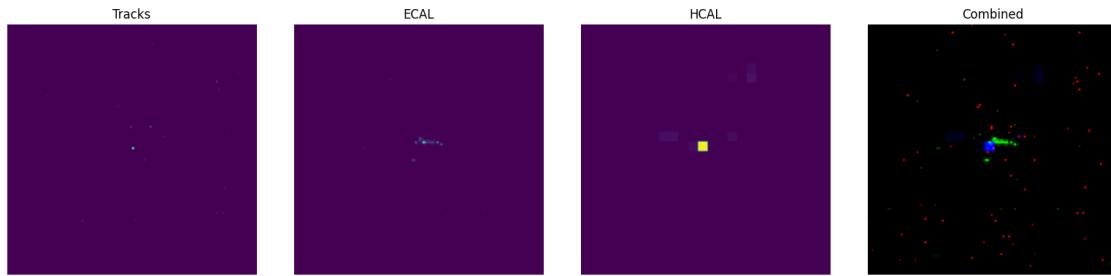
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



epoch: 16

100% | 625/625 [06:12<00:00, 1.68it/s]

train_loss: 0.0001954651876585558

epoch: 17

100% | 625/625 [06:13<00:00, 1.67it/s]

train_loss: 0.00019403602078091353

epoch: 18

100% | 625/625 [06:14<00:00, 1.67it/s]

train_loss: 0.00019272521131206304

epoch: 19

100% | 625/625 [06:15<00:00, 1.66it/s]

train_loss: 0.00019141527221072465

epoch: 20

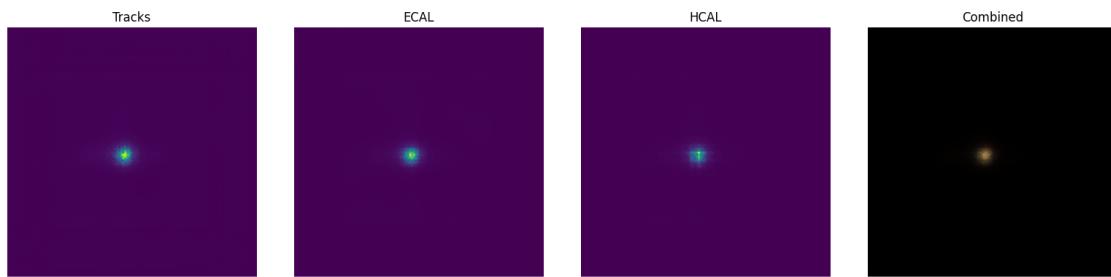
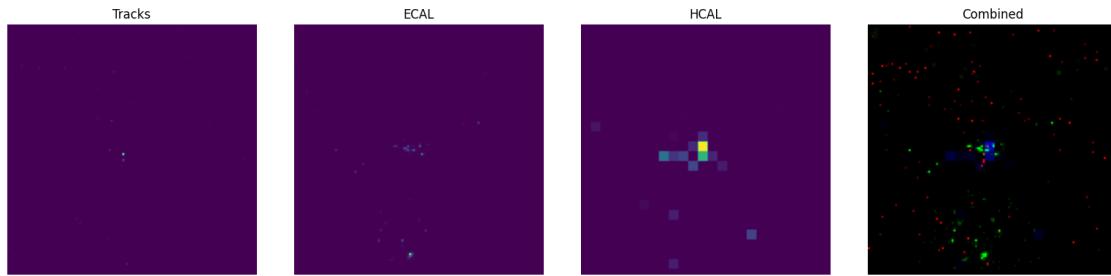
100% | 625/625 [06:14<00:00, 1.67it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

train_loss: 0.00019004733965266495

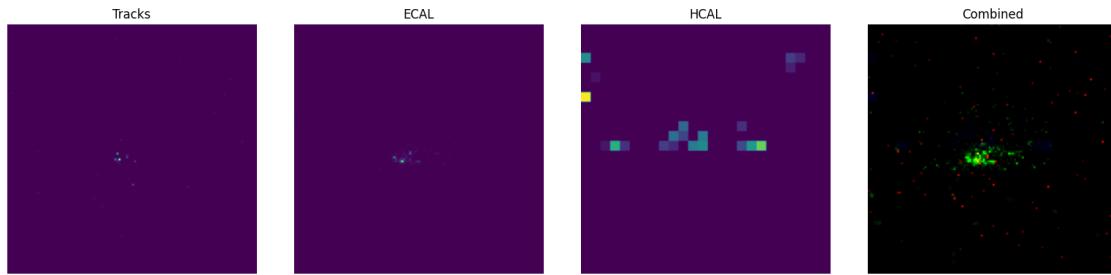
=====

Sample #0

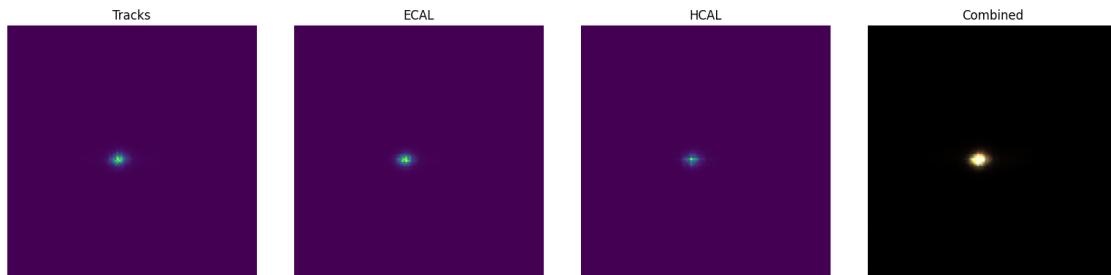


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

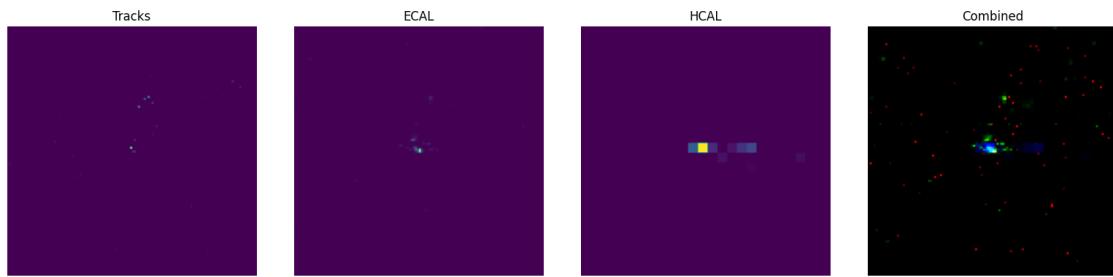


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

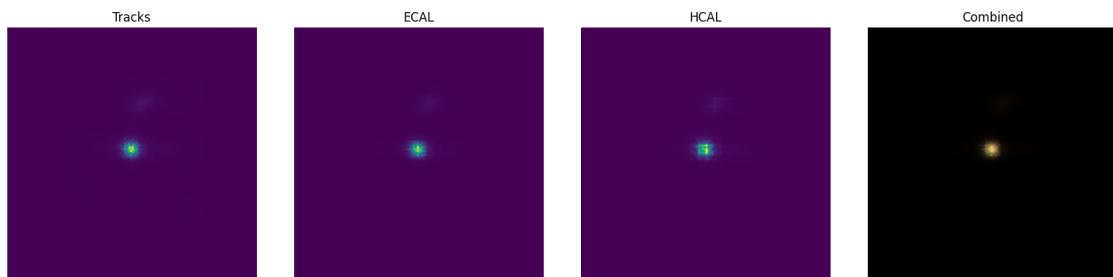


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

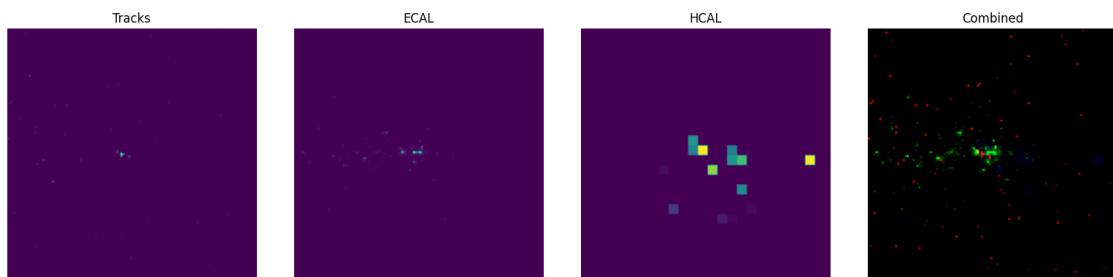


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

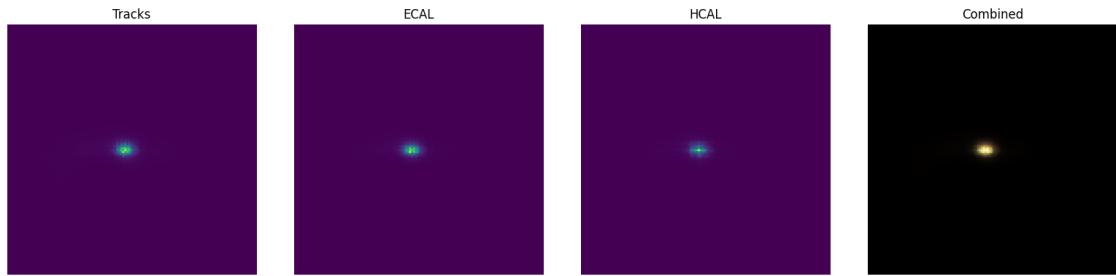


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

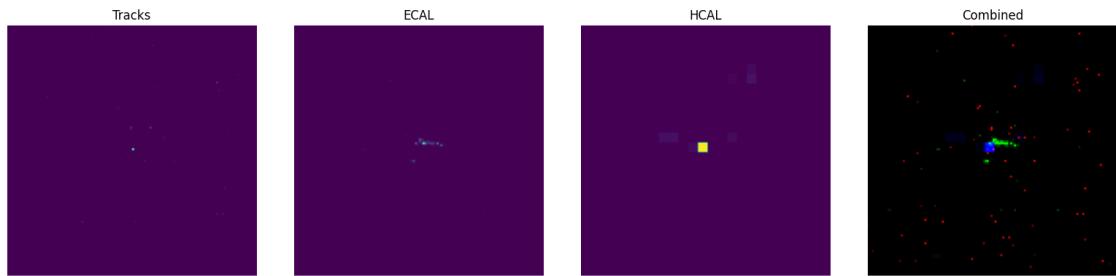


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

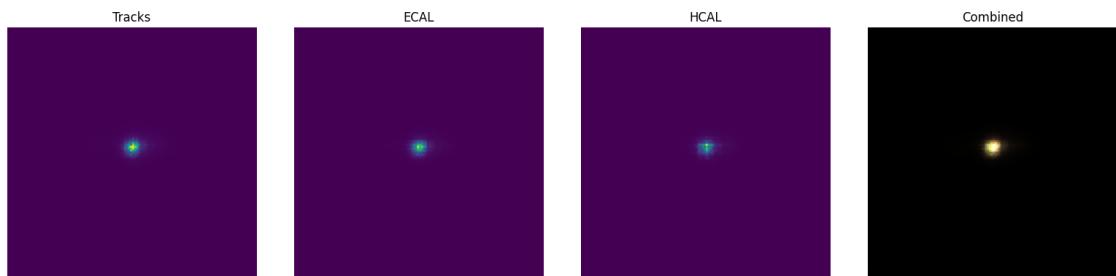


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 21

100% | 625/625 [06:15<00:00, 1.66it/s]

train_loss: 0.00018834633152000607

epoch: 22

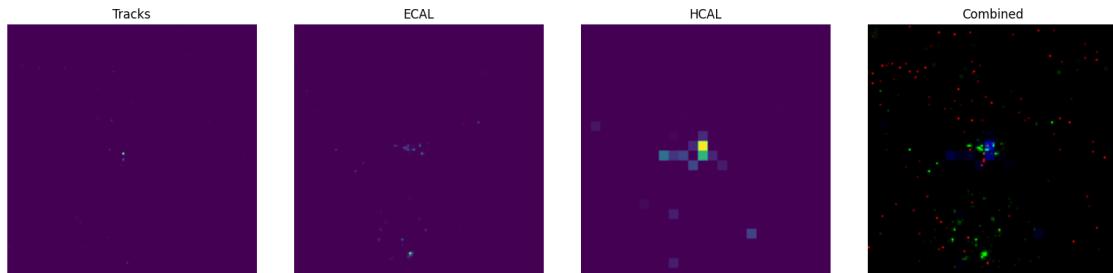
```
100%|          | 625/625 [06:15<00:00, 1.66it/s]
train_loss: 0.00018680050154216589
epoch: 23

100%|          | 625/625 [06:15<00:00, 1.66it/s]
train_loss: 0.00018549738030415028
epoch: 24

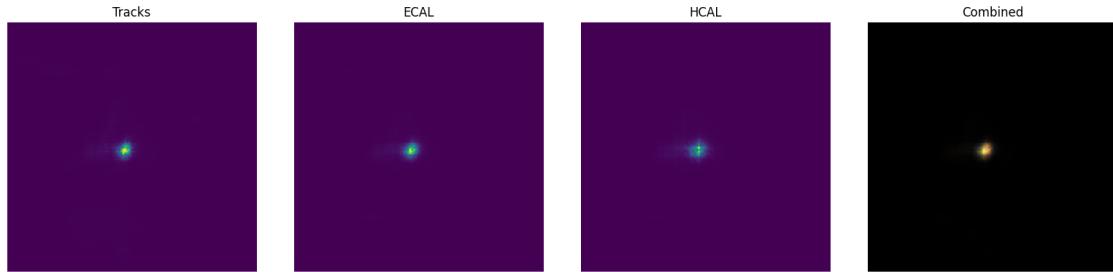
100%|          | 625/625 [06:15<00:00, 1.66it/s]
train_loss: 0.00019328533438965677
epoch: 25

100%|          | 625/625 [06:15<00:00, 1.67it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.000183843234856613
=====
Sample #0
```

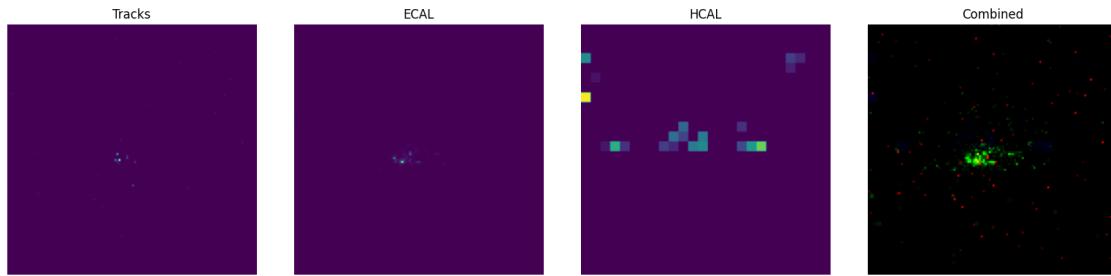


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

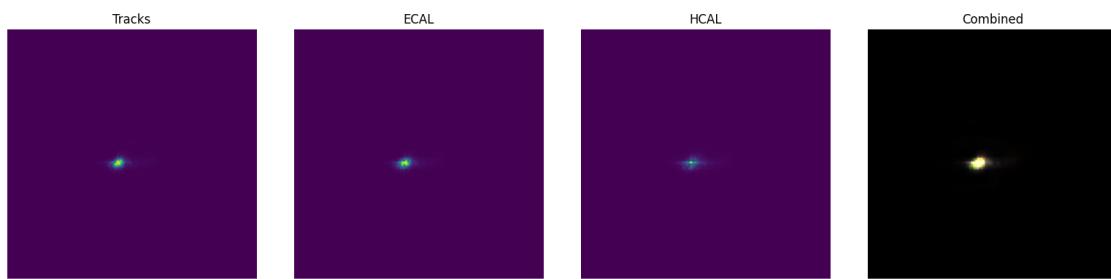


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

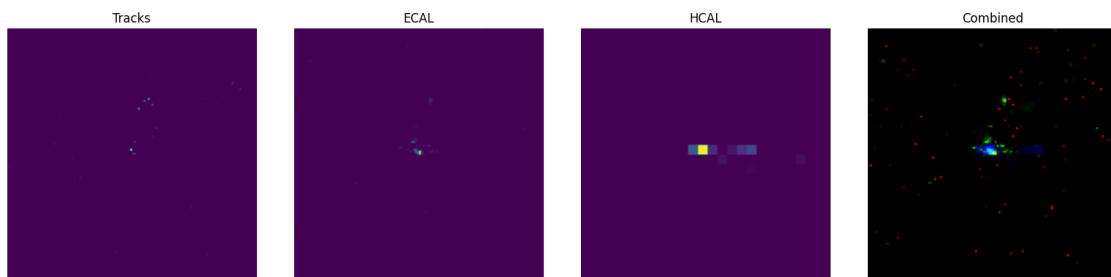


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

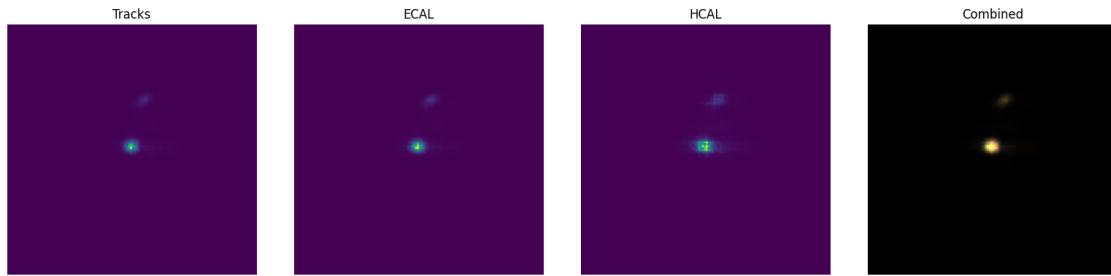


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

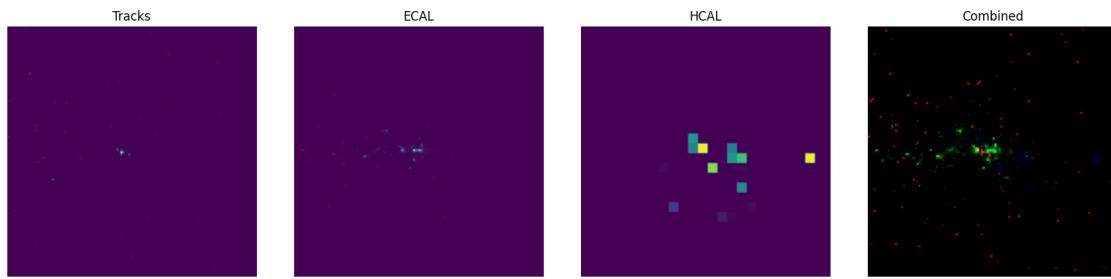


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

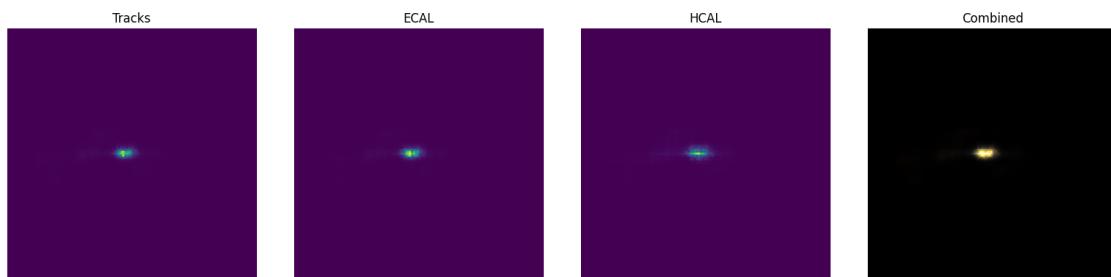


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

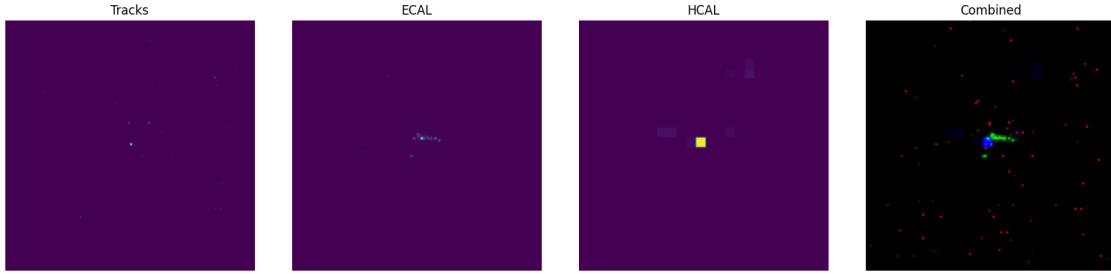


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

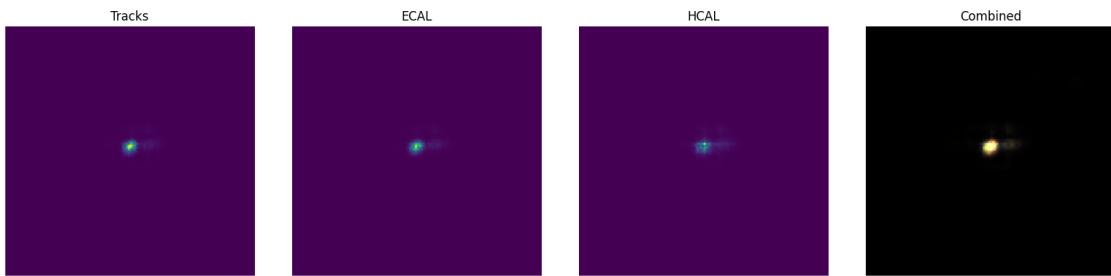


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 26

100% | 625/625 [06:14<00:00, 1.67it/s]

train_loss: 0.0001823459102306515

epoch: 27

100% | 625/625 [06:14<00:00, 1.67it/s]

train_loss: 0.00018070806895848364

epoch: 28

100% | 625/625 [06:15<00:00, 1.66it/s]

train_loss: 0.00018167627723887563

epoch: 29

100% | 625/625 [06:15<00:00, 1.67it/s]

train_loss: 0.00017773188471328468

epoch: 30

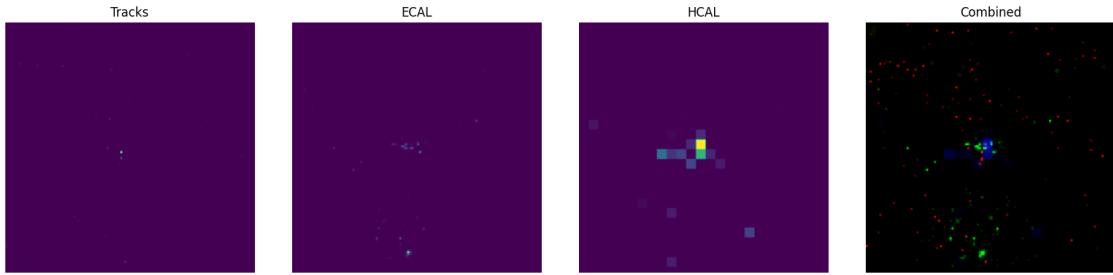
100% | 625/625 [06:16<00:00, 1.66it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

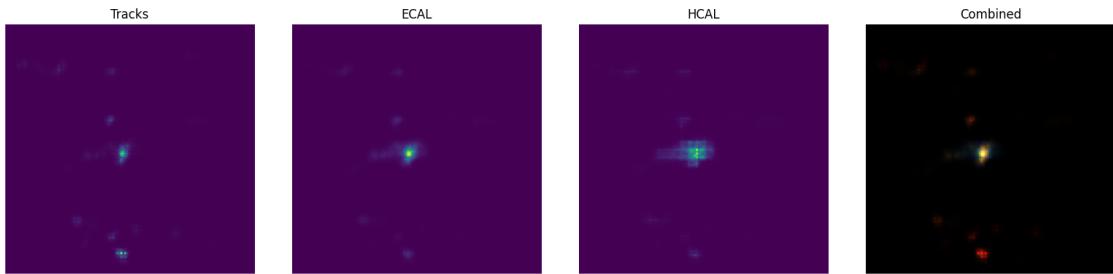
train_loss: 0.00017519078669138254

=====

Sample #0

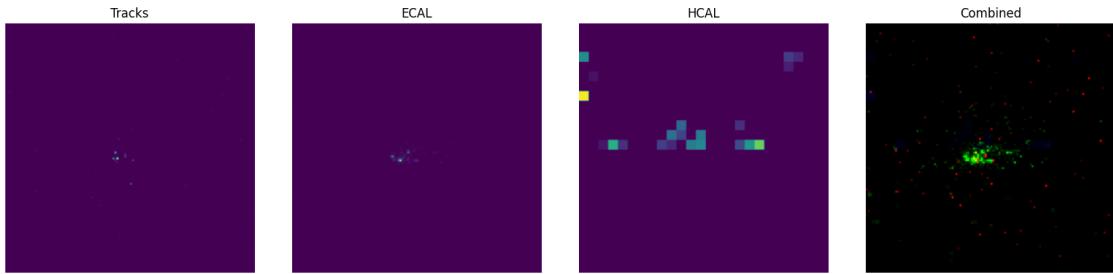


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

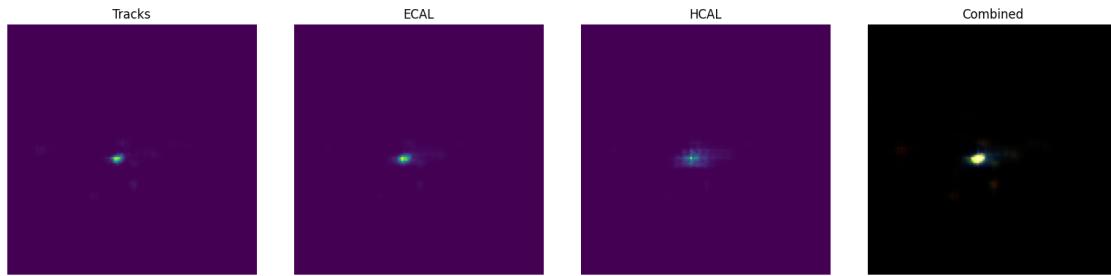


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

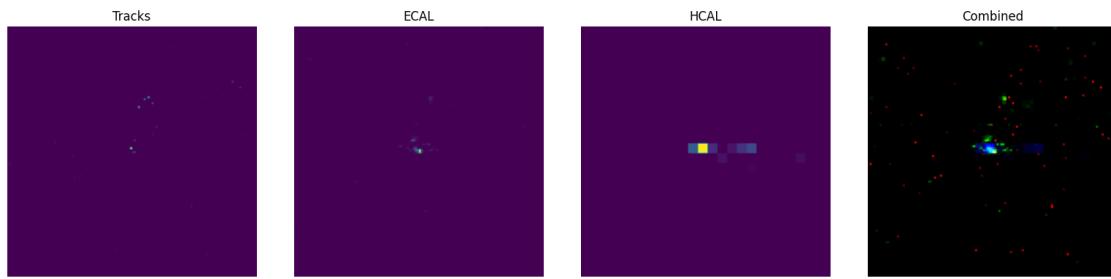


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

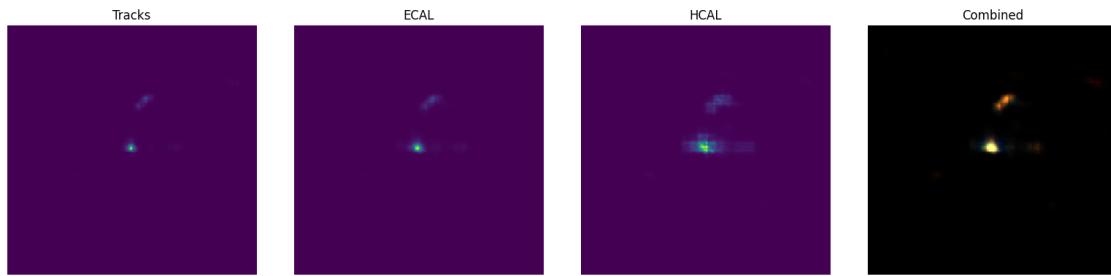


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

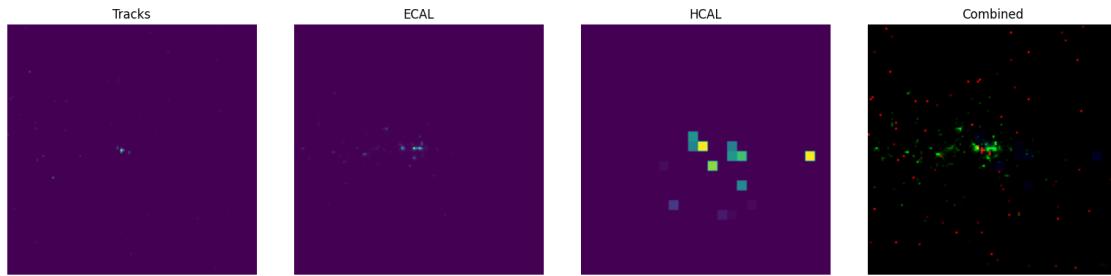


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

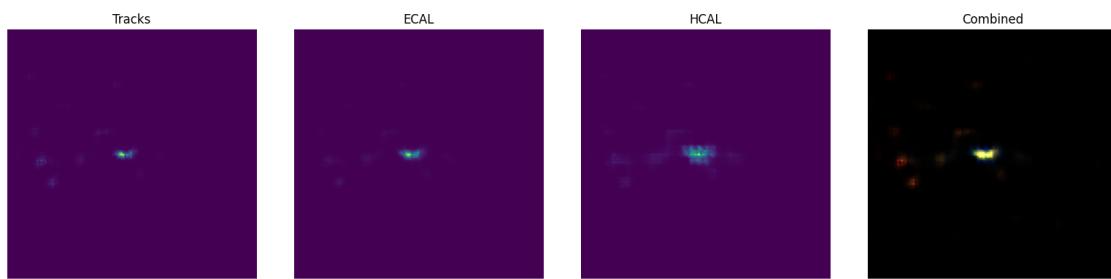


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

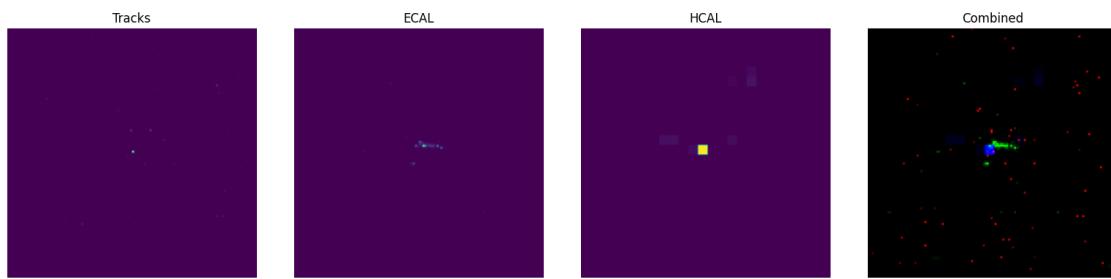


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

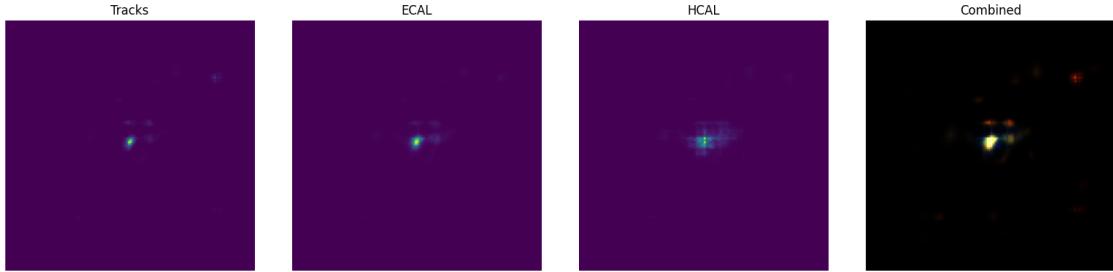


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 31

100% | 625/625 [06:16<00:00, 1.66it/s]

train_loss: 0.00017265774249099195

epoch: 32

100% | 625/625 [06:16<00:00, 1.66it/s]

train_loss: 0.00017529354230500757

epoch: 33

100% | 625/625 [06:17<00:00, 1.66it/s]

train_loss: 0.0001681890787323937

epoch: 34

100% | 625/625 [06:15<00:00, 1.66it/s]

train_loss: 0.00016576751796528697

epoch: 35

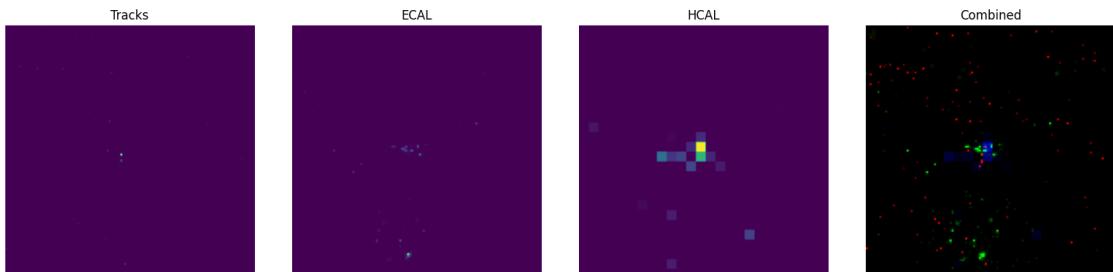
100% | 625/625 [06:16<00:00, 1.66it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

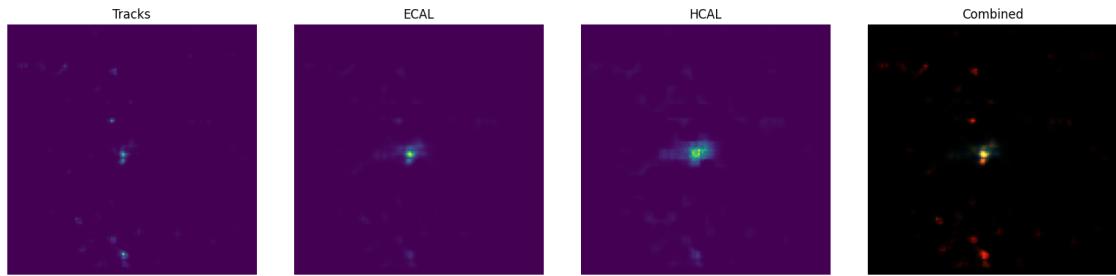
train_loss: 0.0001642086087493226

=====

Sample #0

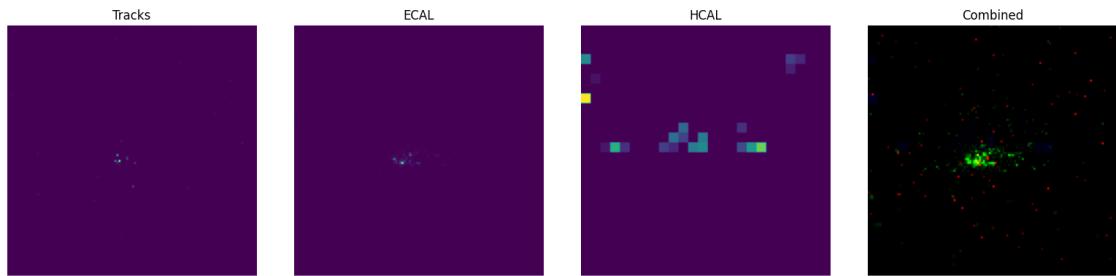


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

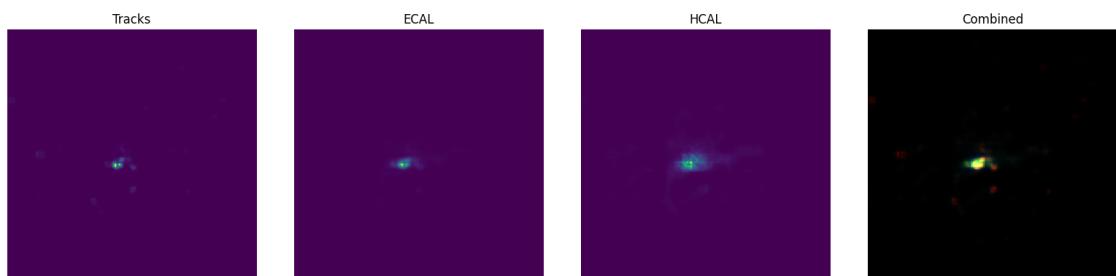


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

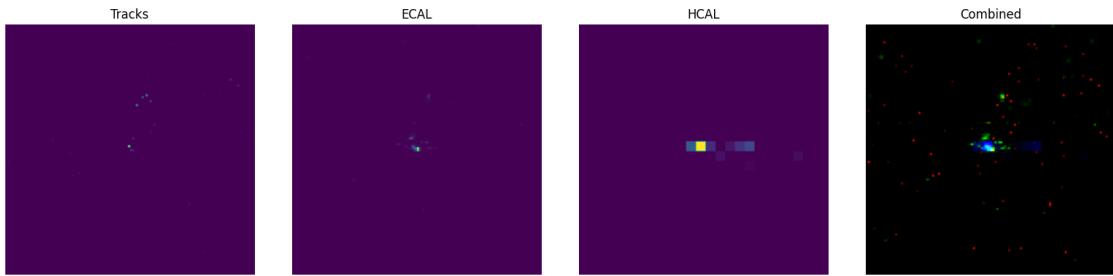


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

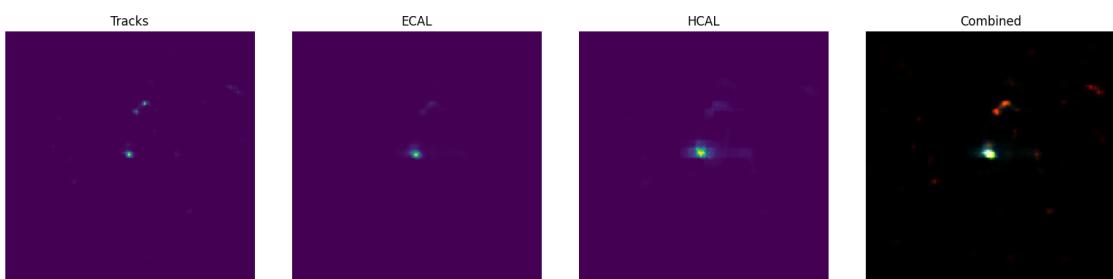


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

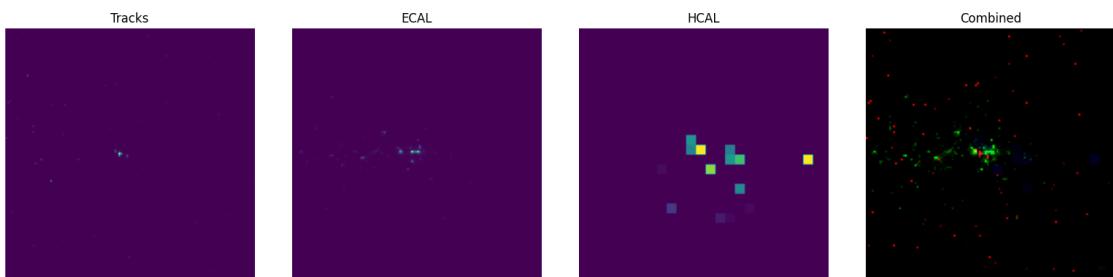


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

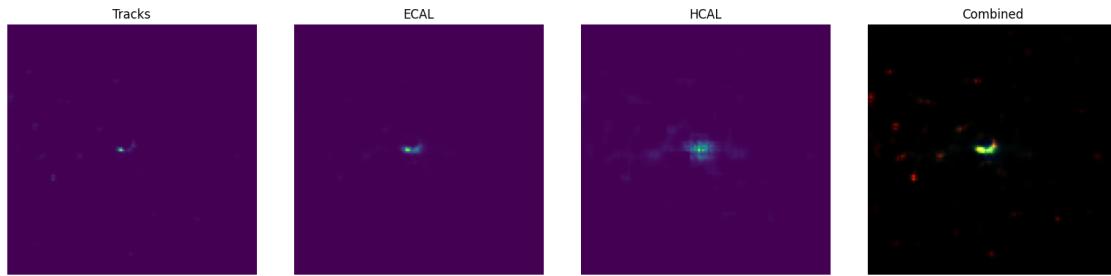


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

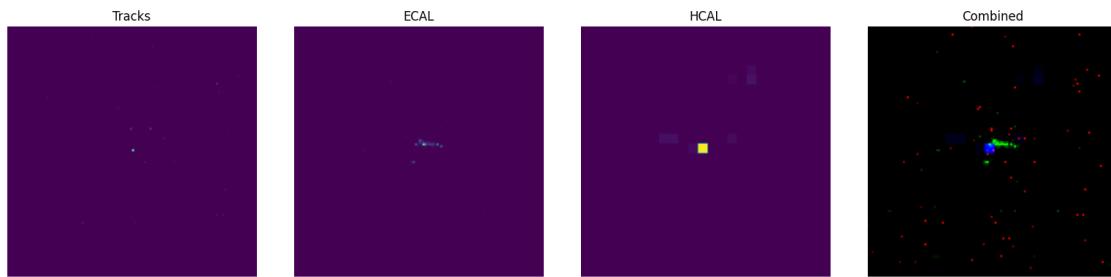


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

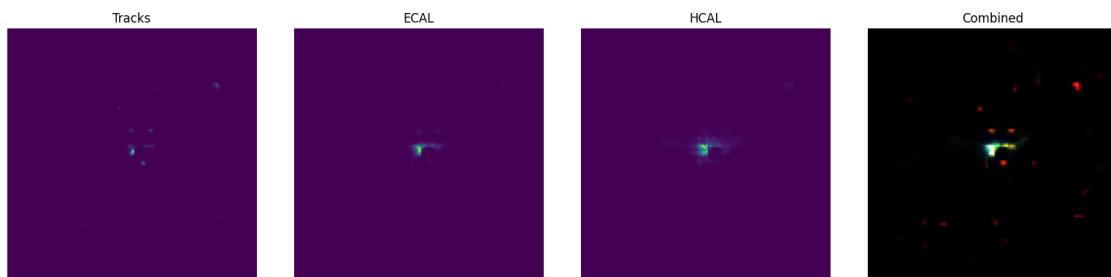


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 36

100%| 625/625 [06:17<00:00, 1.65it/s]

train_loss: 0.0001616354453144595

epoch: 37

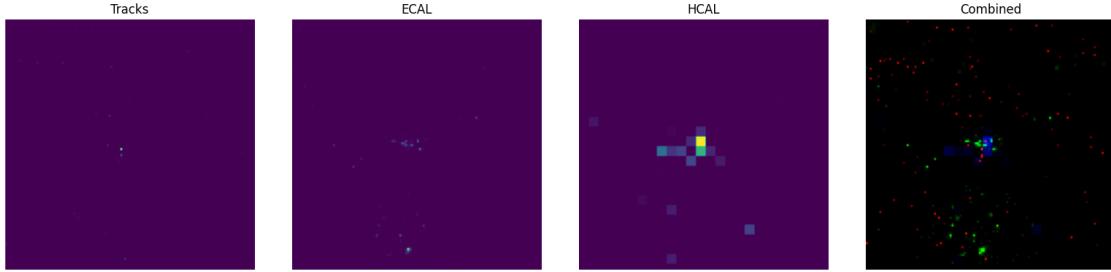
100%| 625/625 [06:19<00:00, 1.65it/s]

```
train_loss: 0.0001592027424601838
epoch: 38
100%|                                | 625/625 [06:18<00:00, 1.65it/s]

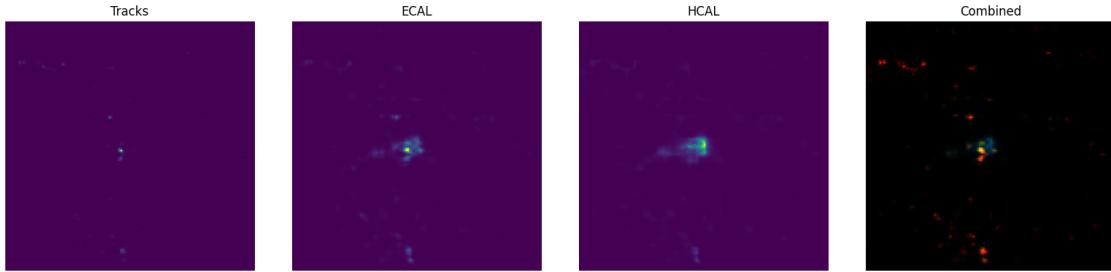
train_loss: 0.0001575624957680702
epoch: 39
100%|                                | 625/625 [06:17<00:00, 1.65it/s]

train_loss: 0.00015541281334590168
epoch: 40
100%|                                | 625/625 [06:38<00:00, 1.57it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00015319902489427476
=====
Sample #0
```

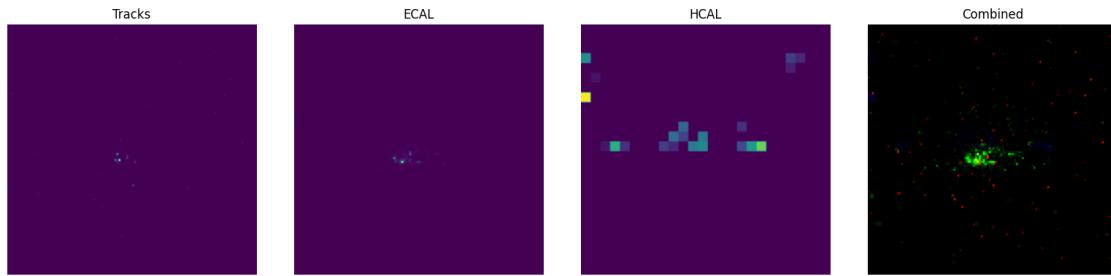


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

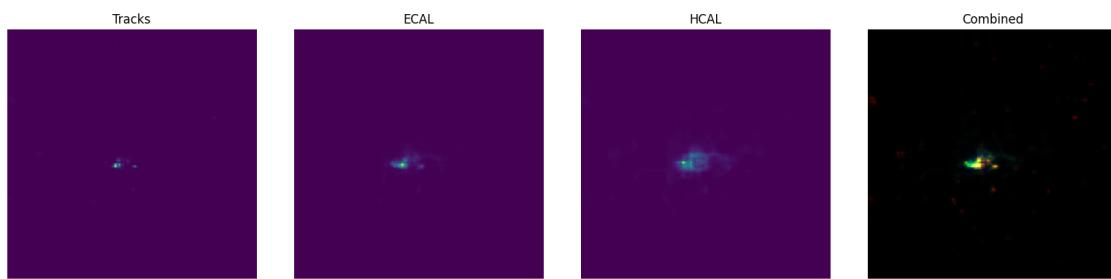


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

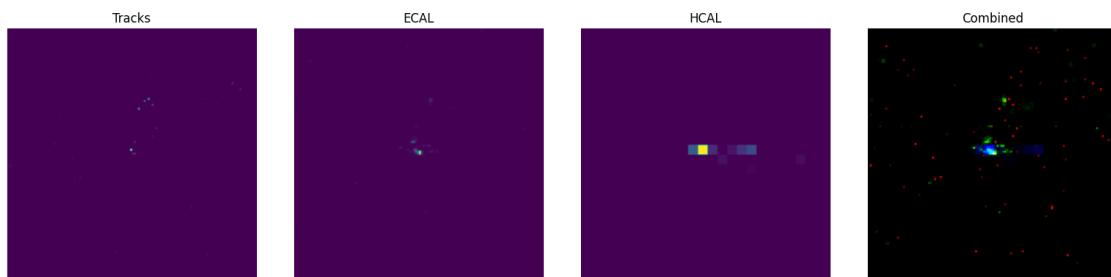


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

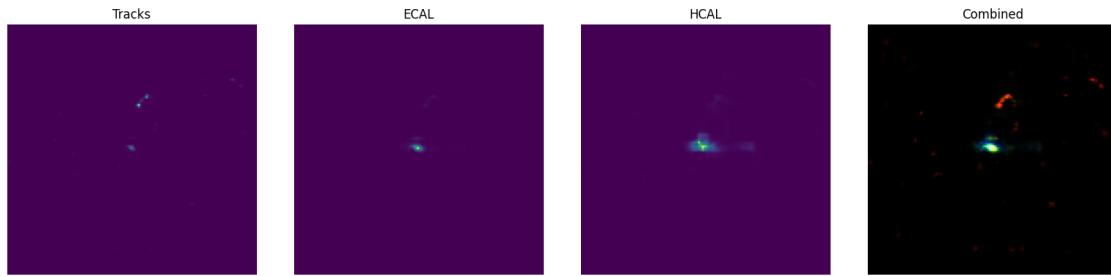


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

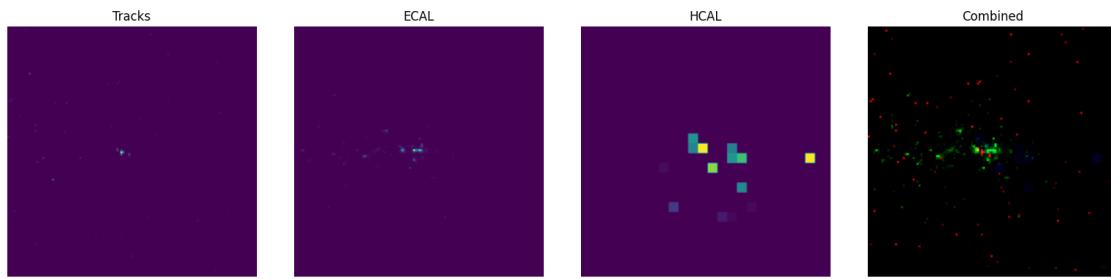


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

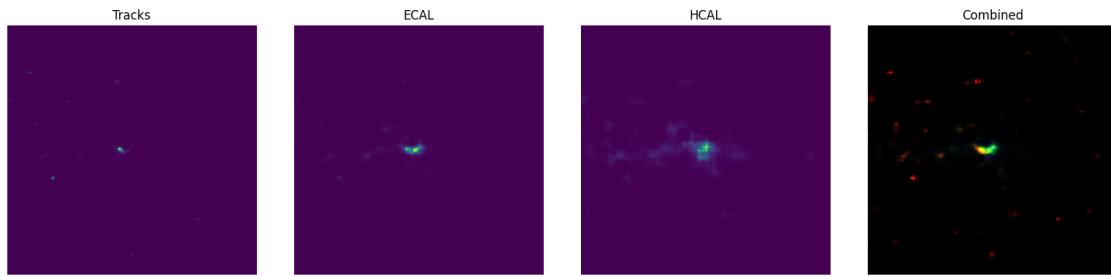


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

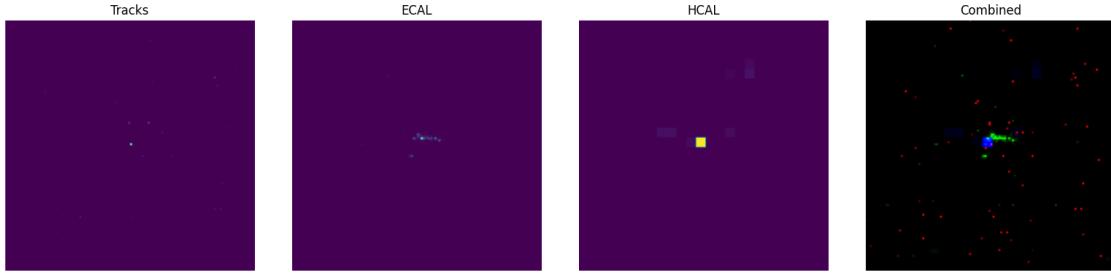


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

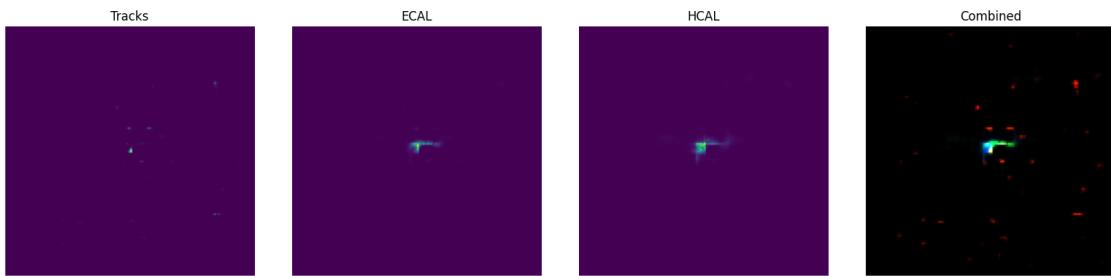


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



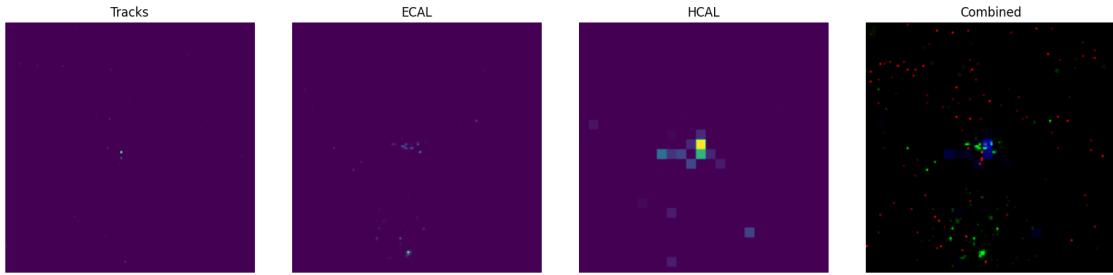
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



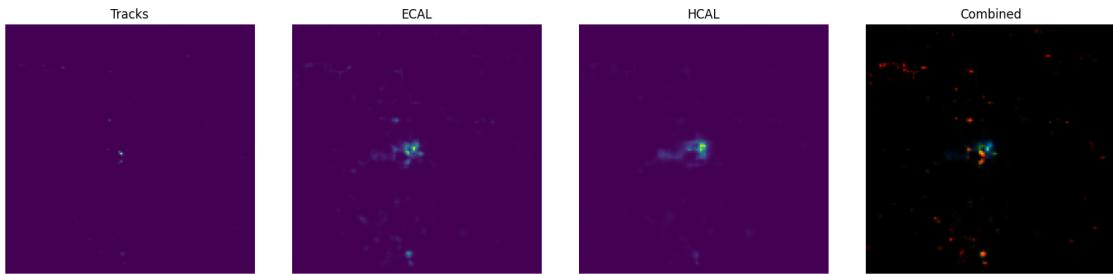
```

epoch: 41
100%|          | 625/625 [06:18<00:00,  1.65it/s]
train_loss: 0.00015184239014051854
epoch: 42
100%|          | 625/625 [06:18<00:00,  1.65it/s]
train_loss: 0.0001504754171008244
epoch: 43
100%|          | 625/625 [06:22<00:00,  1.63it/s]
train_loss: 0.00014865877963602544
epoch: 44
100%|          | 625/625 [06:18<00:00,  1.65it/s]
train_loss: 0.0001476686808047816
epoch: 45
100%|          | 625/625 [06:18<00:00,  1.65it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00014657752830535173
=====
```

Sample #0

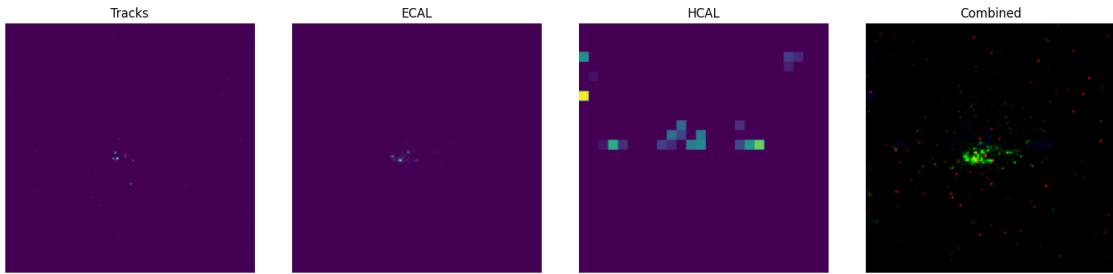


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

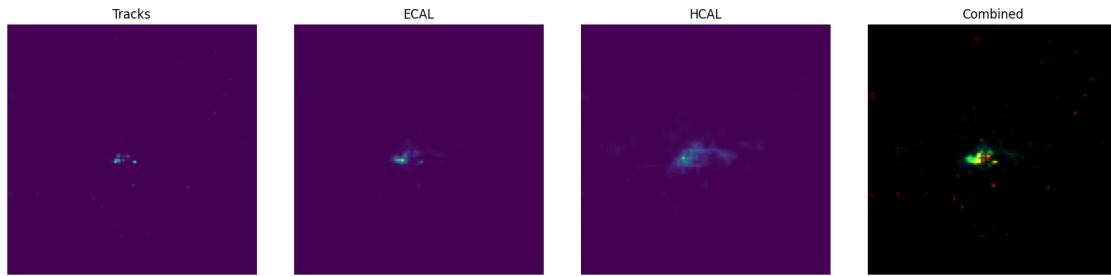


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

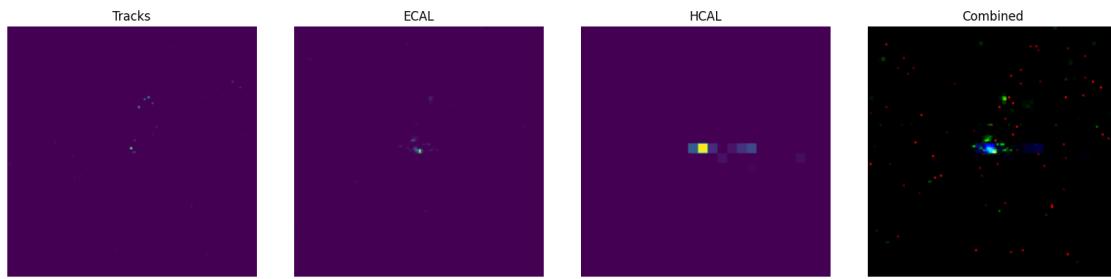


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

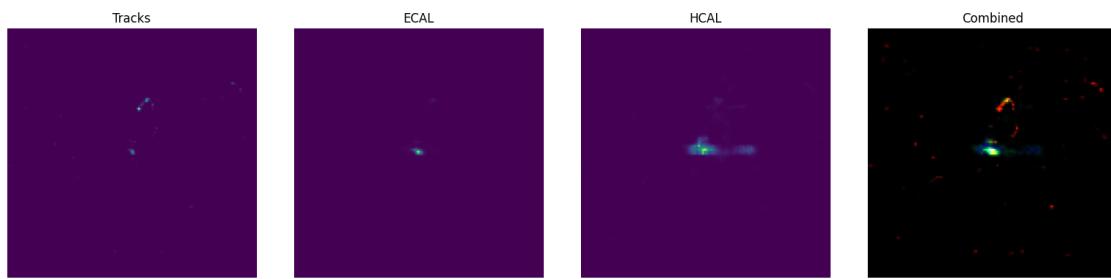


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

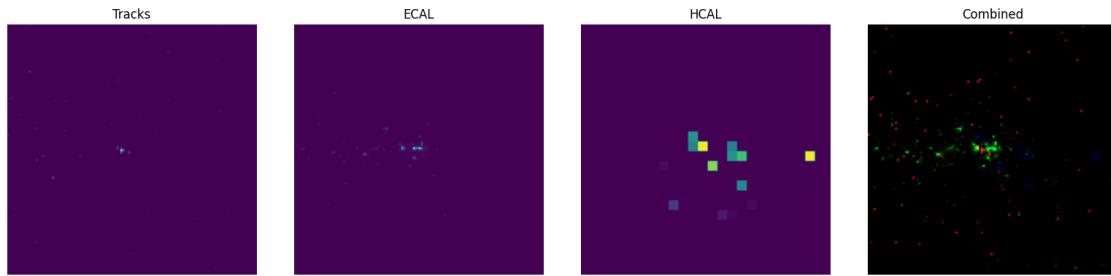


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

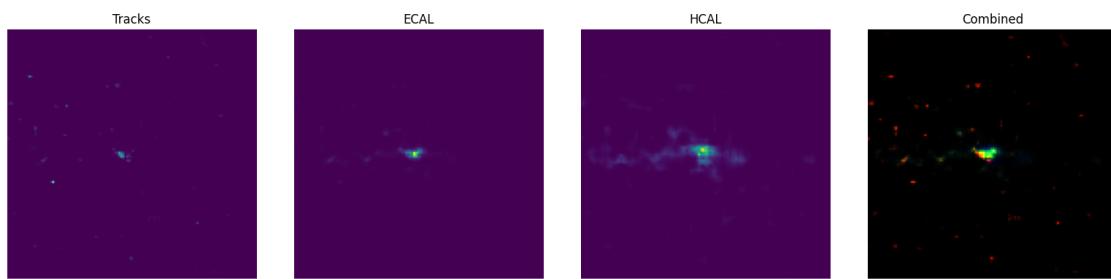


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

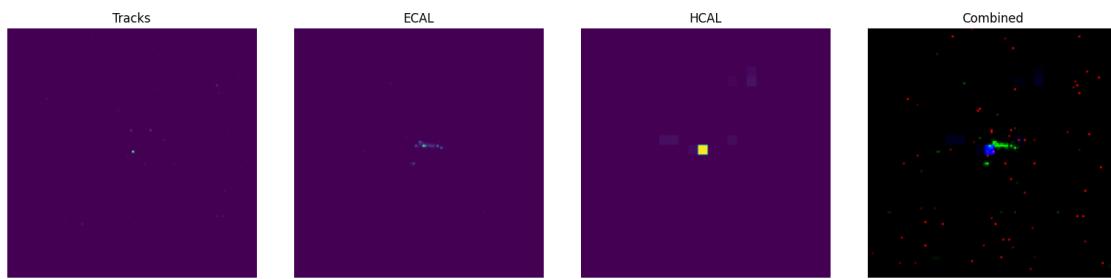


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

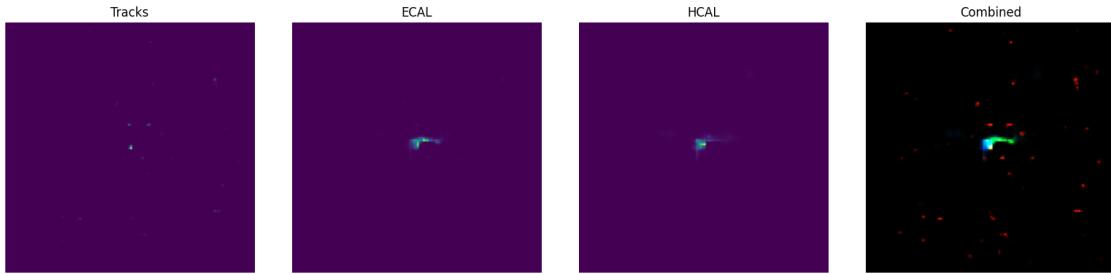


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 46

100% | 625/625 [06:18<00:00, 1.65it/s]

train_loss: 0.00014563197835814208

epoch: 47

100% | 625/625 [06:18<00:00, 1.65it/s]

train_loss: 0.0001447931282222271

epoch: 48

100% | 625/625 [06:18<00:00, 1.65it/s]

train_loss: 0.00014397278157994152

epoch: 49

100% | 625/625 [06:18<00:00, 1.65it/s]

train_loss: 0.0001429521227022633

epoch: 50

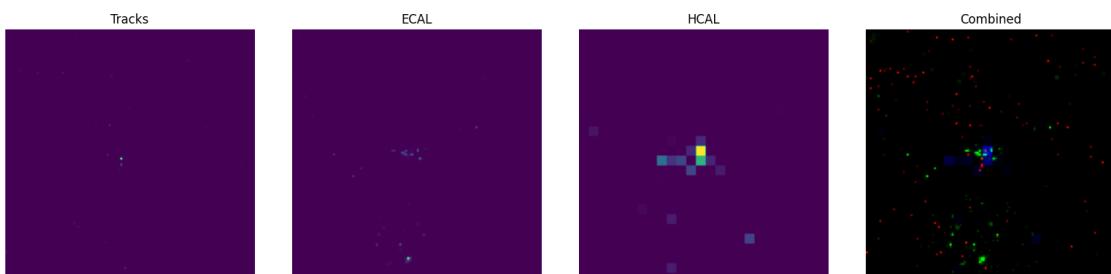
100% | 625/625 [06:17<00:00, 1.65it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

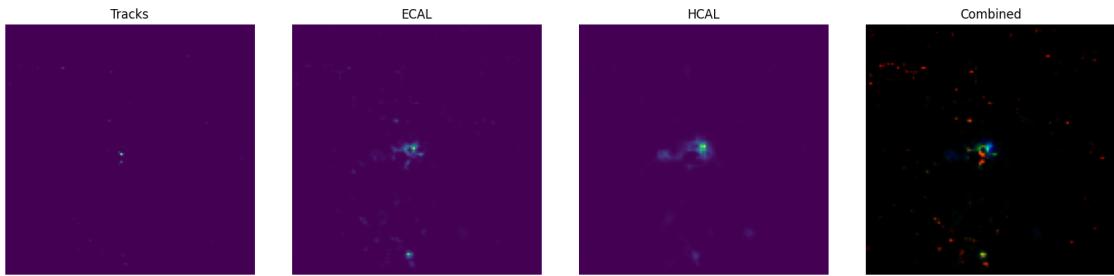
train_loss: 0.00014239331891294568

=====

Sample #0

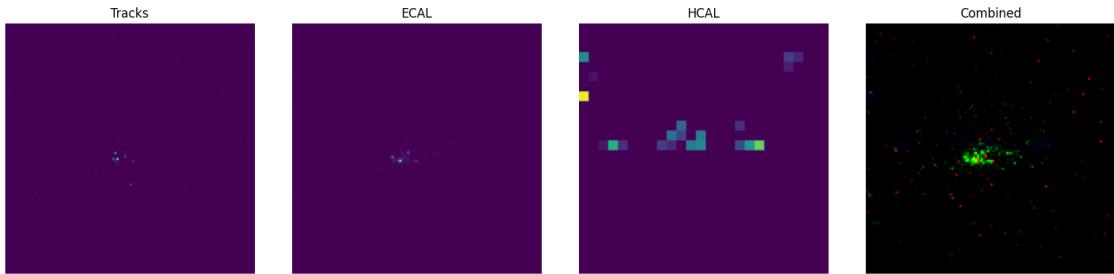


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

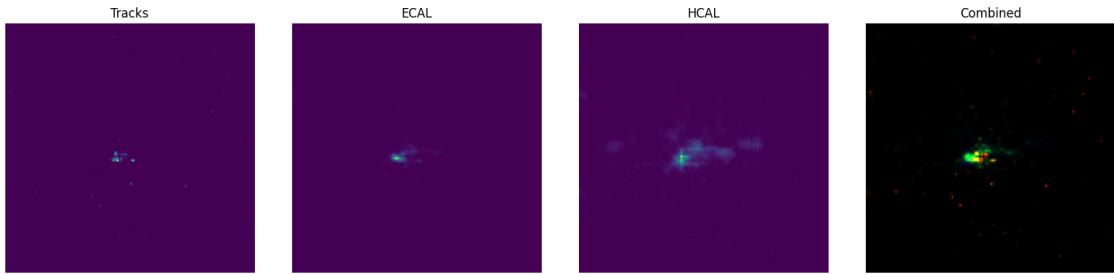


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

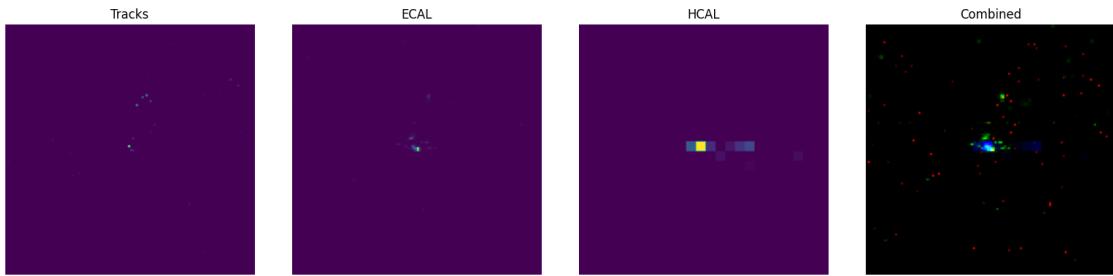


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

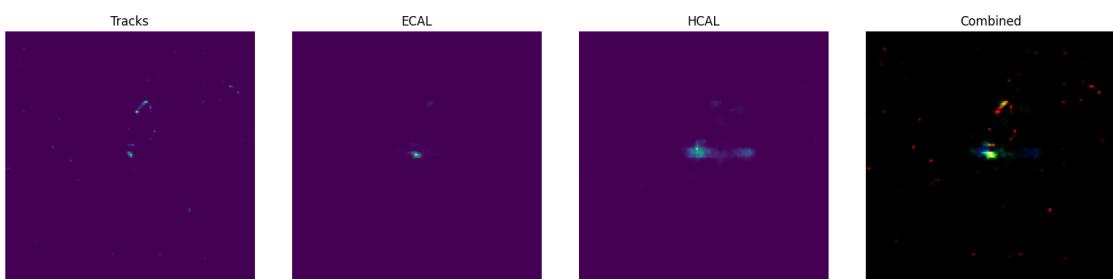


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

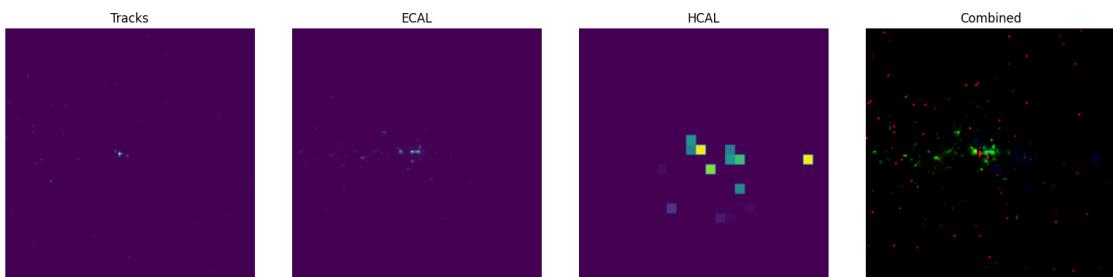


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

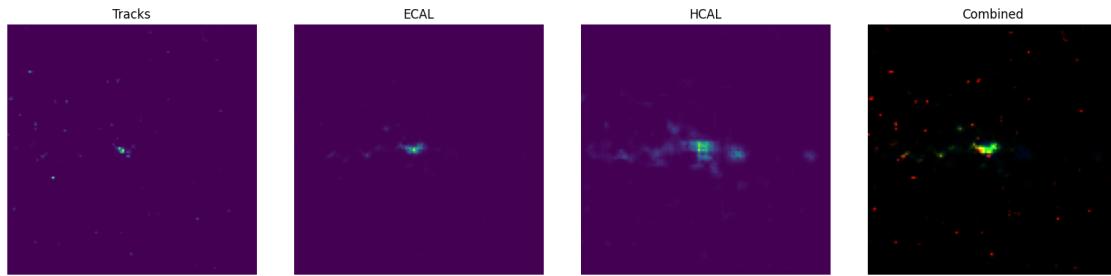


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

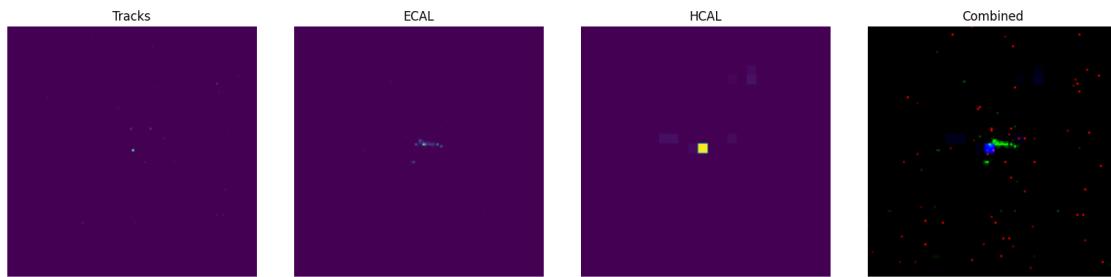


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

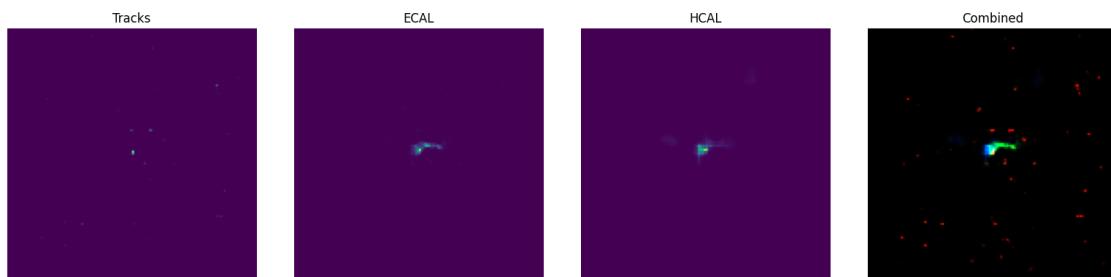


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 51

100%| 625/625 [06:18<00:00, 1.65it/s]

train_loss: 0.00014161151081789285

epoch: 52

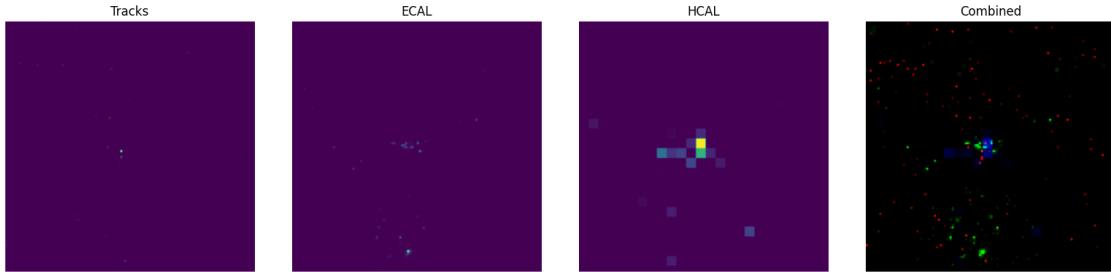
100%| 625/625 [06:19<00:00, 1.65it/s]

```
train_loss: 0.0001407093039015308
epoch: 53
100%|                                | 625/625 [06:20<00:00, 1.64it/s]

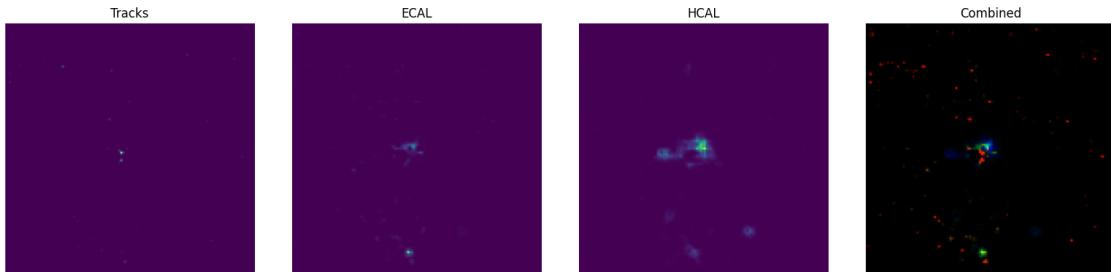
train_loss: 0.00014051673514768481
epoch: 54
100%|                                | 625/625 [06:21<00:00, 1.64it/s]

train_loss: 0.0001393810778623447
epoch: 55
100%|                                | 625/625 [06:21<00:00, 1.64it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00013886408919934183
=====
Sample #0
```

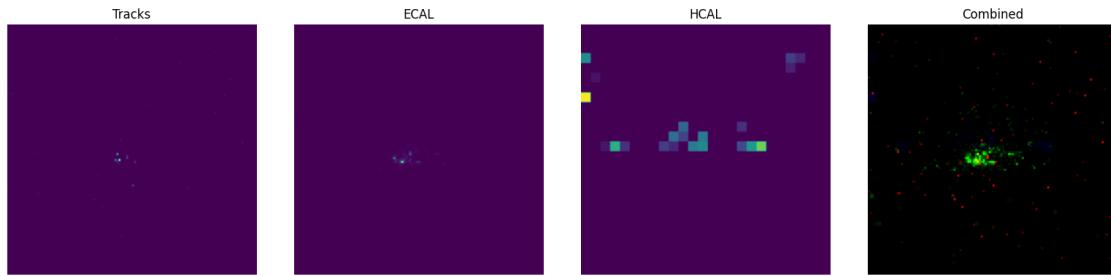


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

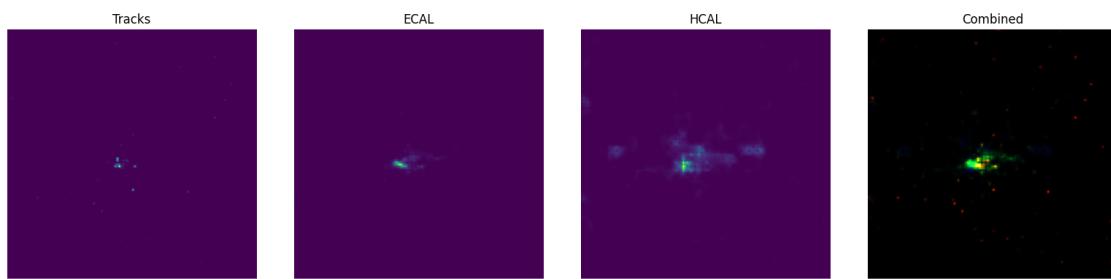


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

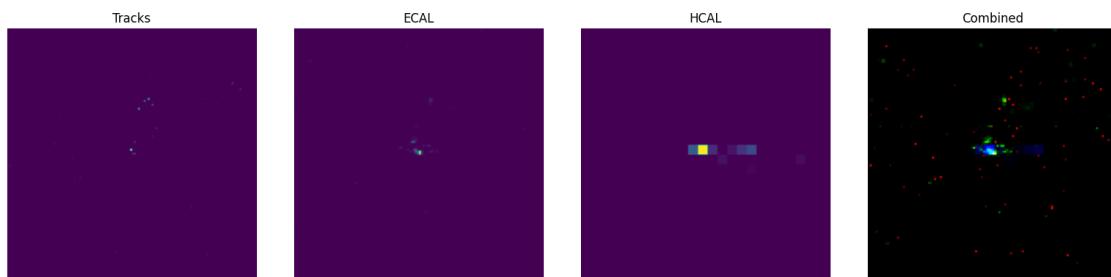


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

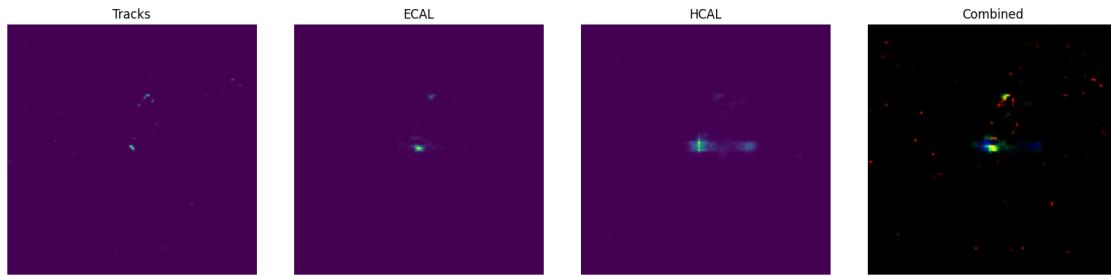


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

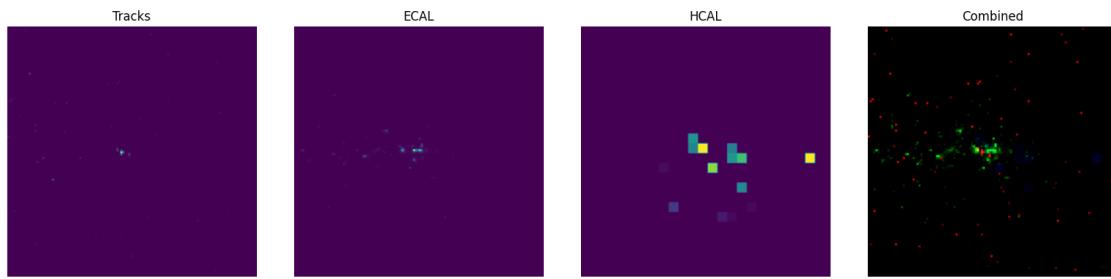


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

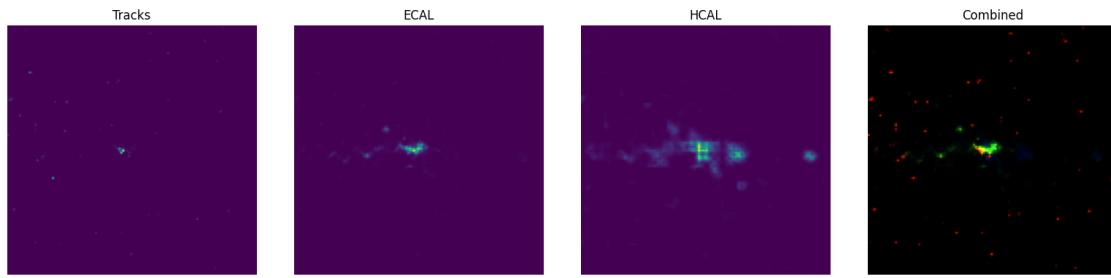


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

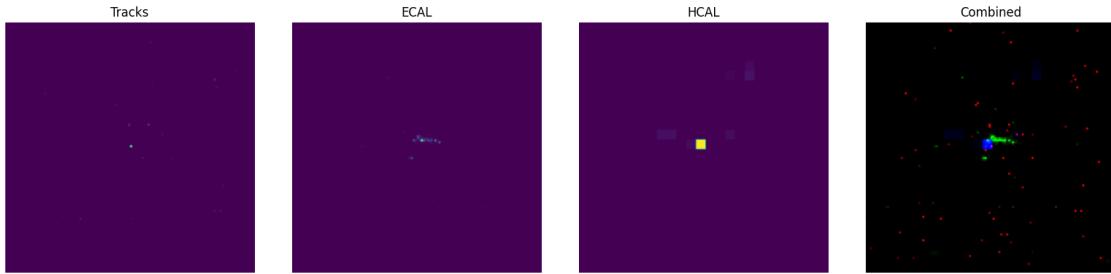


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

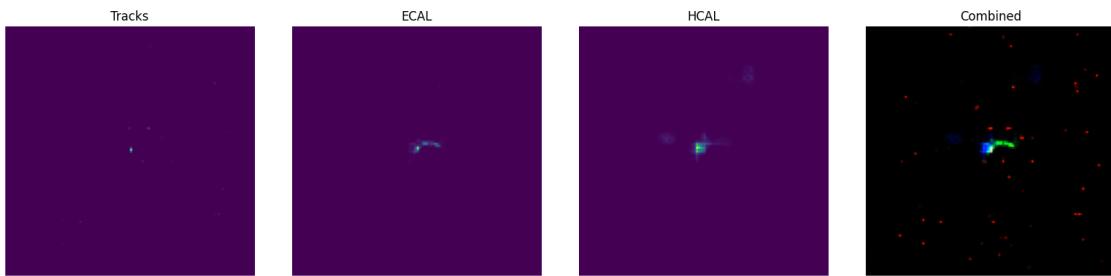


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



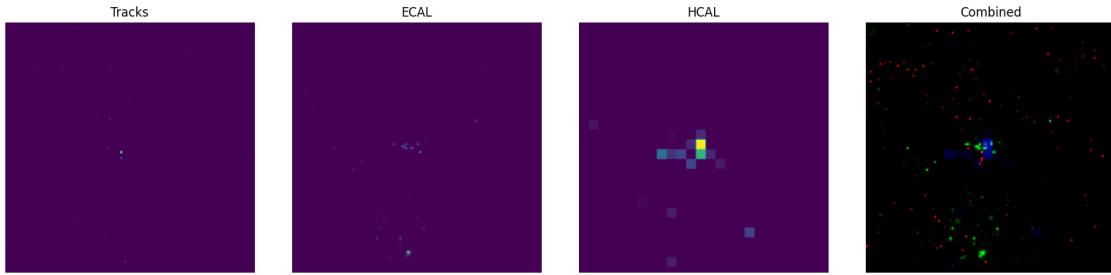
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



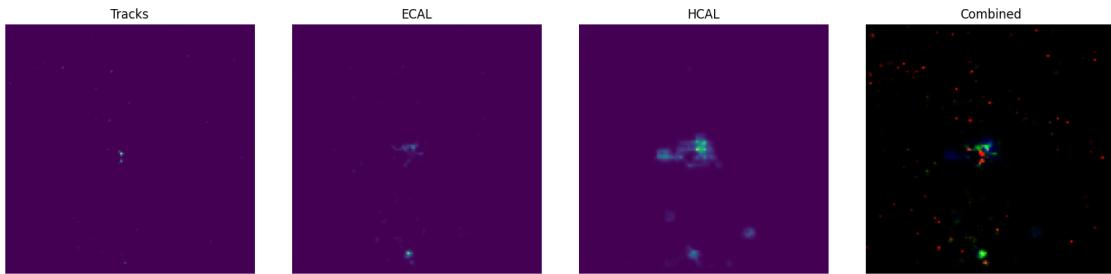
```

epoch: 56
100%|          | 625/625 [06:22<00:00,  1.63it/s]
train_loss: 0.00013828614342492073
epoch: 57
100%|          | 625/625 [06:22<00:00,  1.63it/s]
train_loss: 0.0001375902398955077
epoch: 58
100%|          | 625/625 [06:23<00:00,  1.63it/s]
train_loss: 0.00013713304672855885
epoch: 59
100%|          | 625/625 [06:22<00:00,  1.64it/s]
train_loss: 0.00013658522460609674
epoch: 60
100%|          | 625/625 [06:21<00:00,  1.64it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00013631456627044827
=====
```

Sample #0

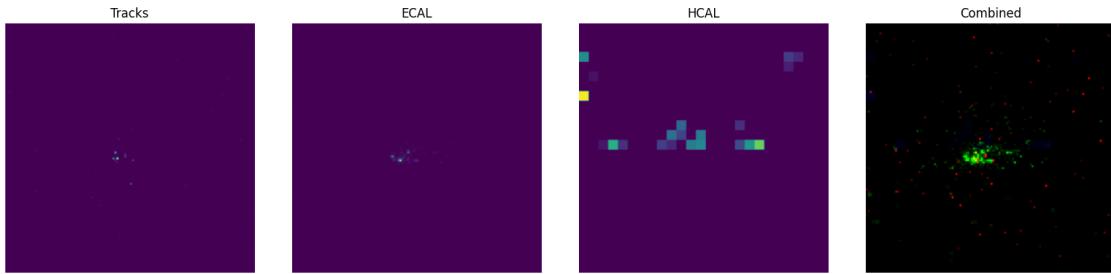


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

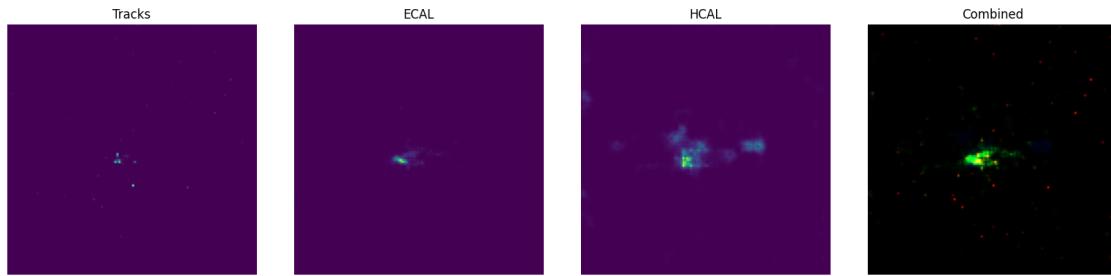


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

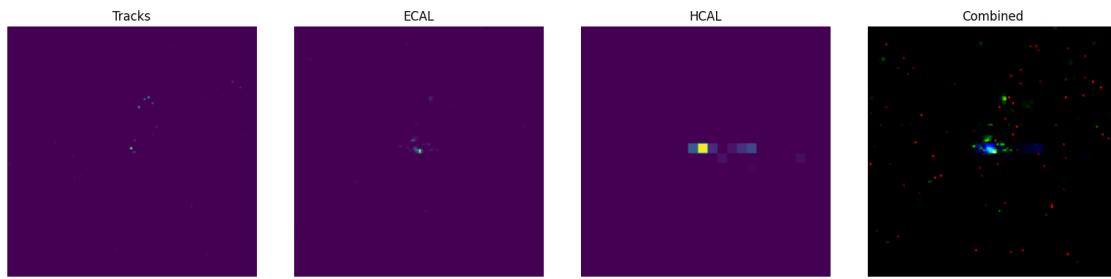


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

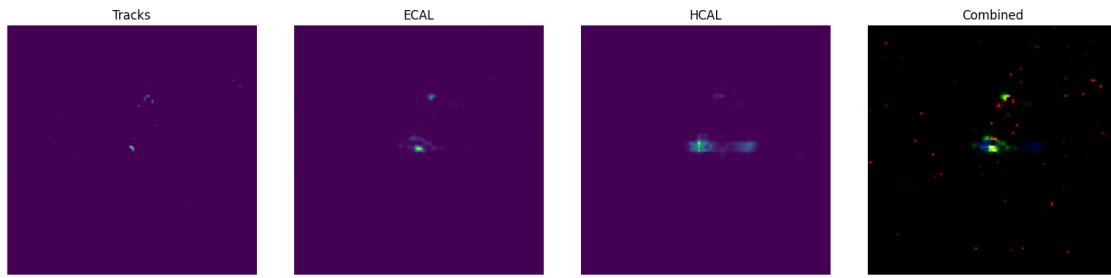


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

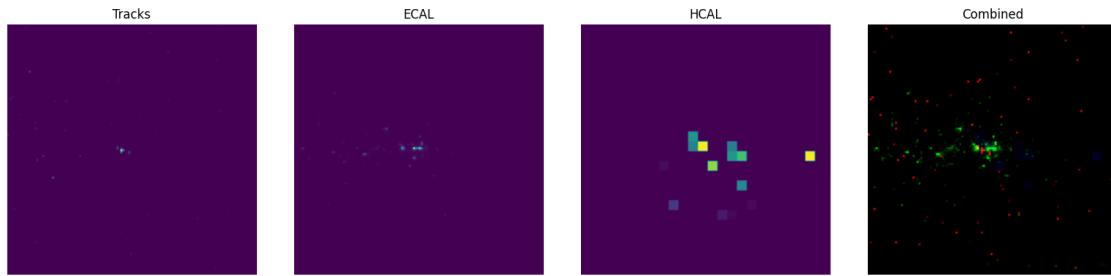


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

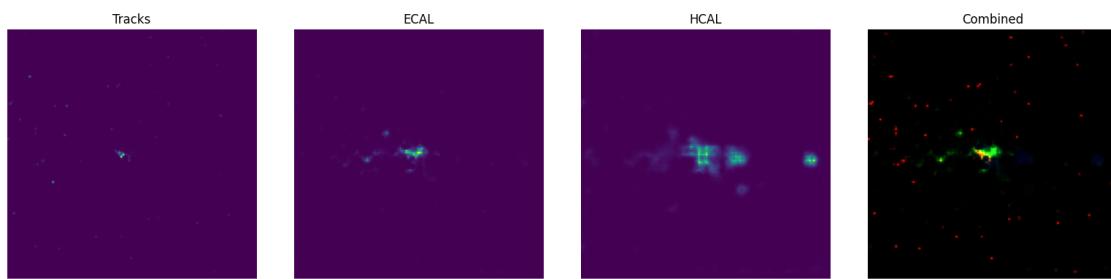


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

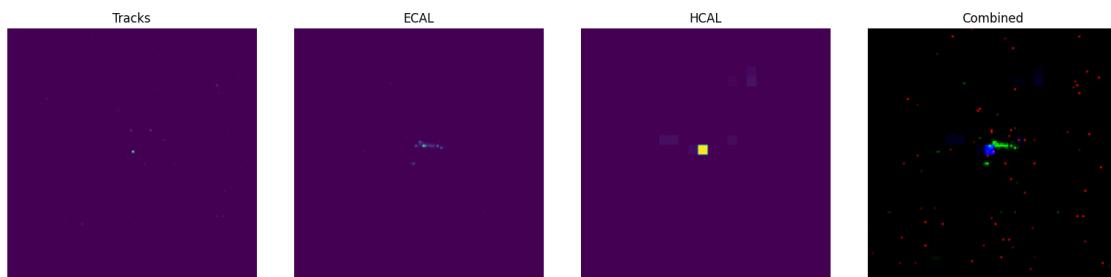


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

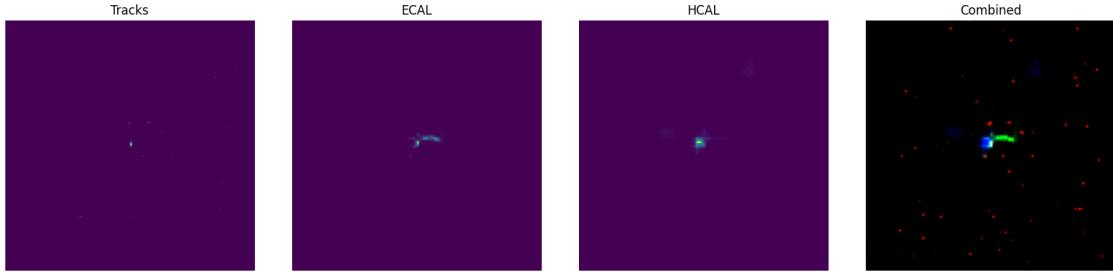


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 61

100% | 625/625 [06:20<00:00, 1.64it/s]

train_loss: 0.00013581425342708826

epoch: 62

100% | 625/625 [06:21<00:00, 1.64it/s]

train_loss: 0.00013532312263268977

epoch: 63

100% | 625/625 [06:33<00:00, 1.59it/s]

train_loss: 0.0001348392387619242

epoch: 64

100% | 625/625 [06:22<00:00, 1.64it/s]

train_loss: 0.0001344575874740258

epoch: 65

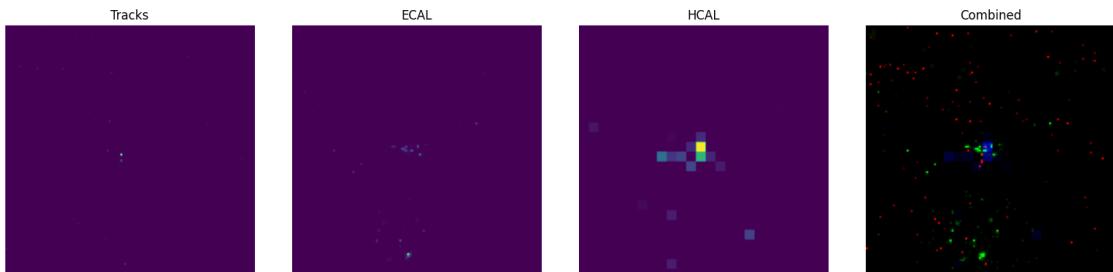
100% | 625/625 [06:21<00:00, 1.64it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

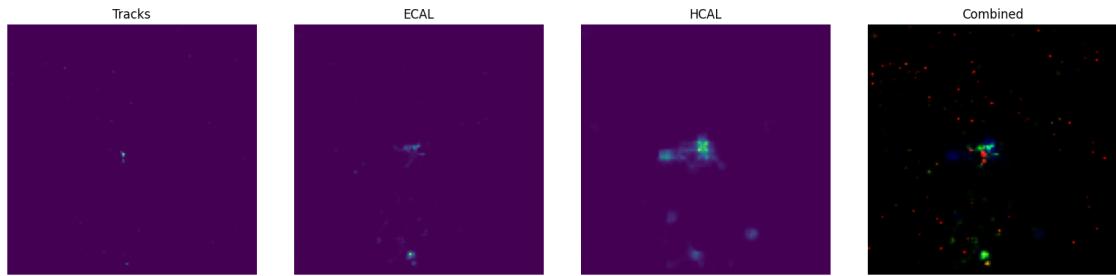
train_loss: 0.0001346516001271084

=====

Sample #0

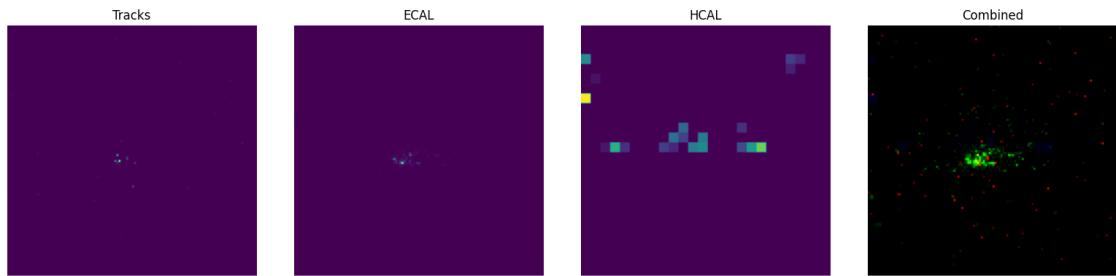


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

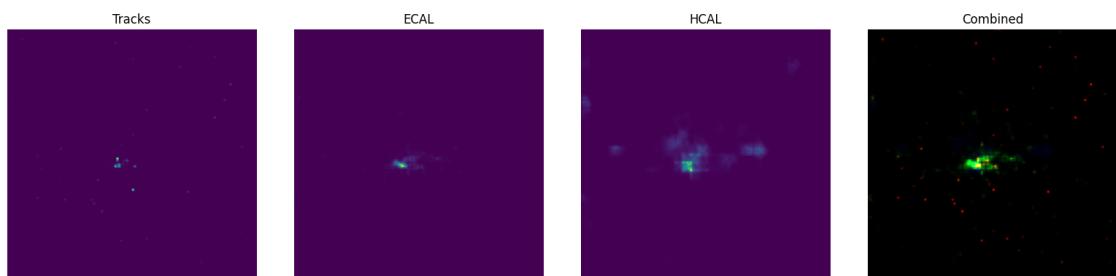


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

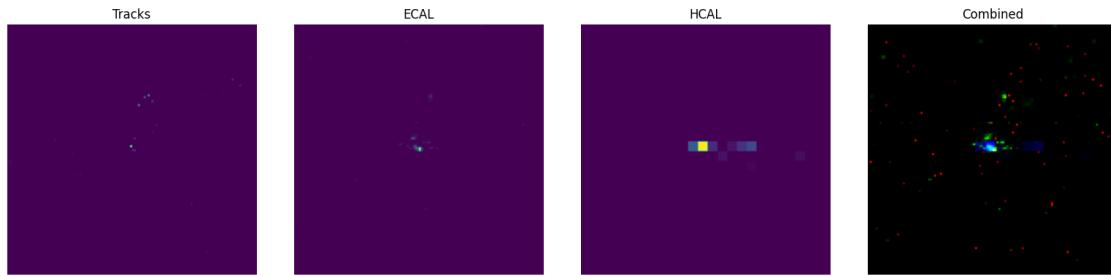


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

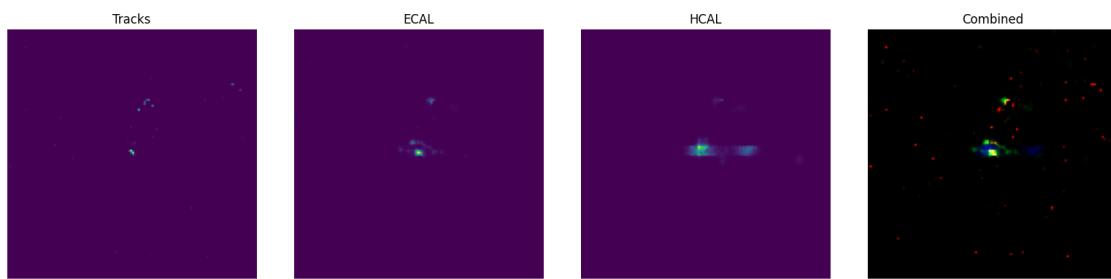


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

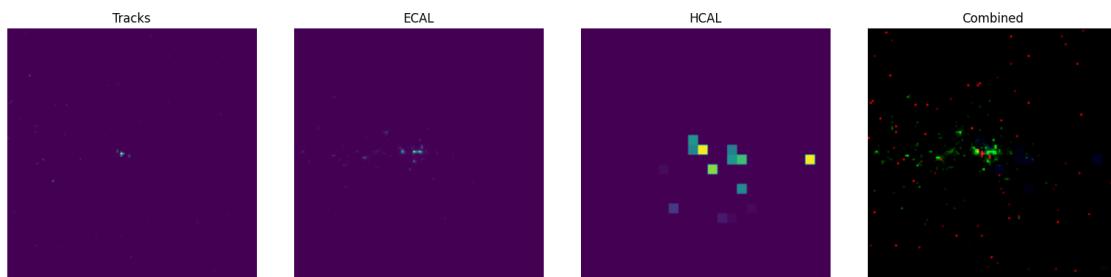


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

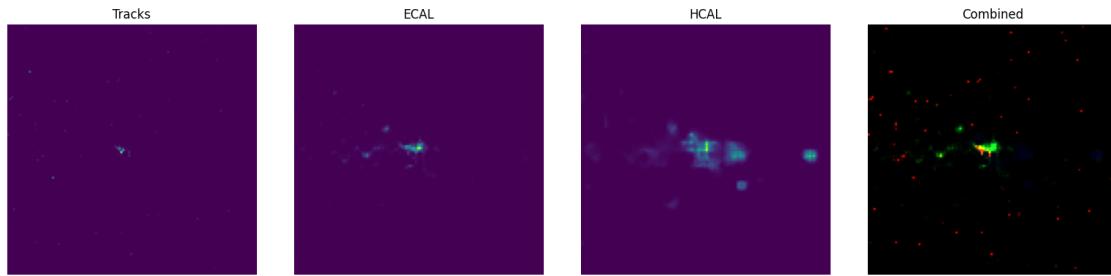


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

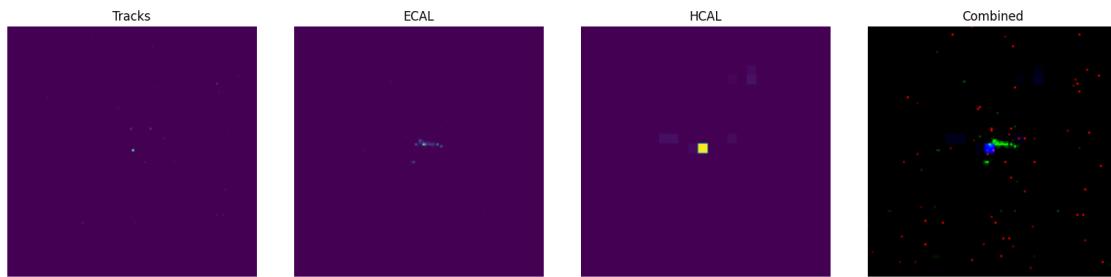


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

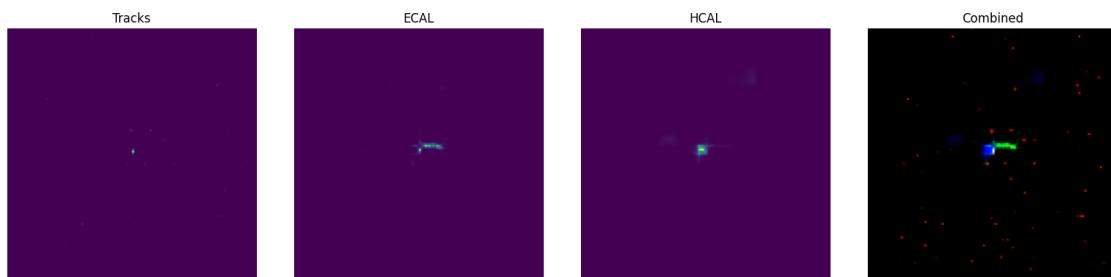


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 66

100%| 625/625 [06:21<00:00, 1.64it/s]

train_loss: 0.00013386954935267568

epoch: 67

100%| 625/625 [06:23<00:00, 1.63it/s]

```

train_loss: 0.0001336249261163175
epoch: 68
100%|                                | 625/625 [06:22<00:00, 1.63it/s]

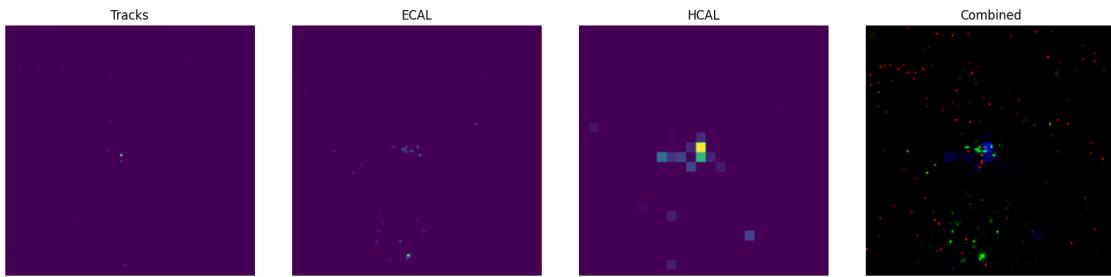
train_loss: 0.0001333916104864329
epoch: 69
100%|                                | 625/625 [06:23<00:00, 1.63it/s]

train_loss: 0.00013308791466988624
epoch: 70
100%|                                | 625/625 [06:22<00:00, 1.63it/s]

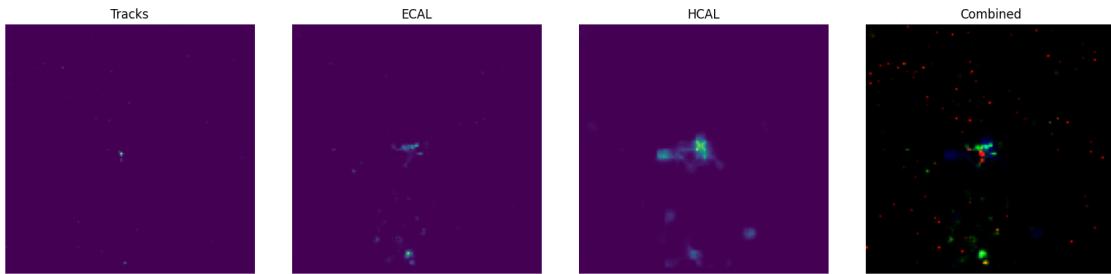
train_loss: 0.00013280406545381992
=====
Sample #0

```

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

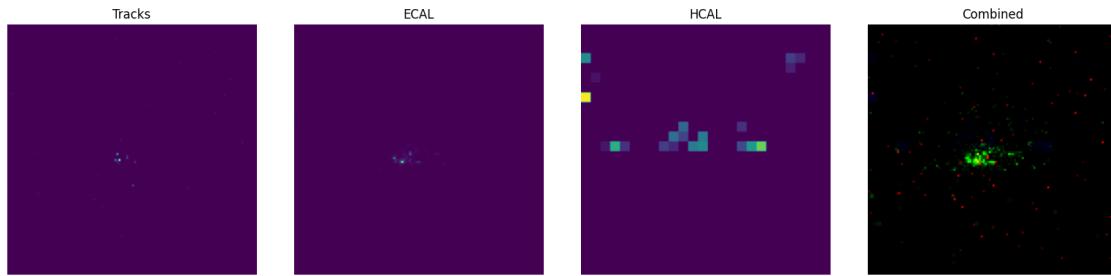


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

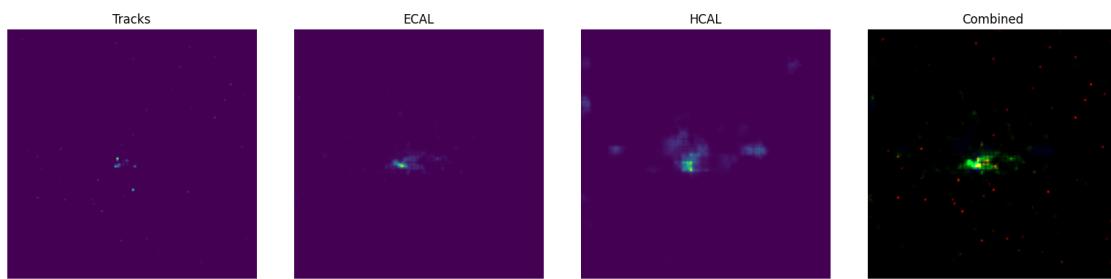


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

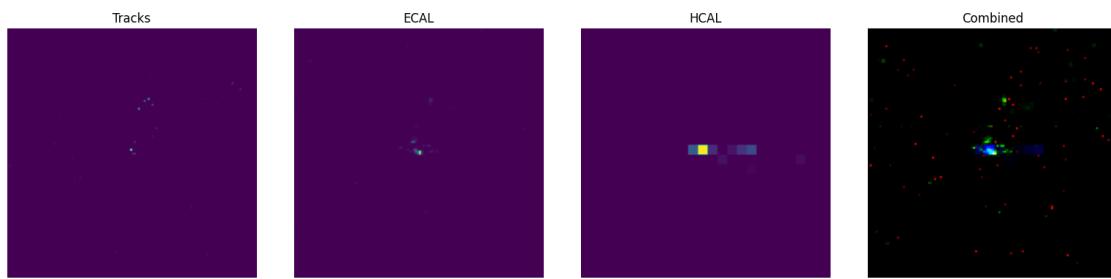


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

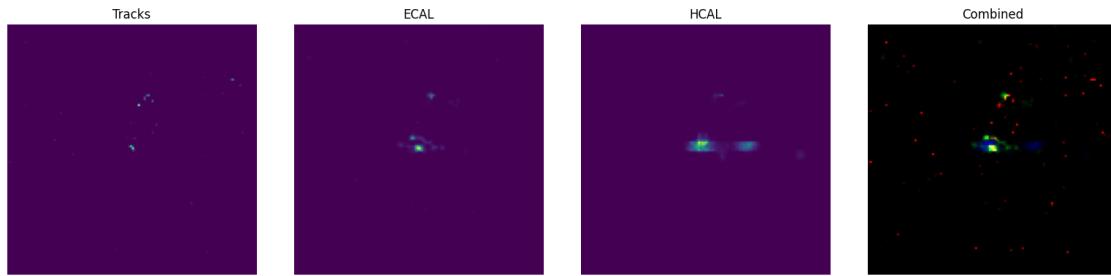


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

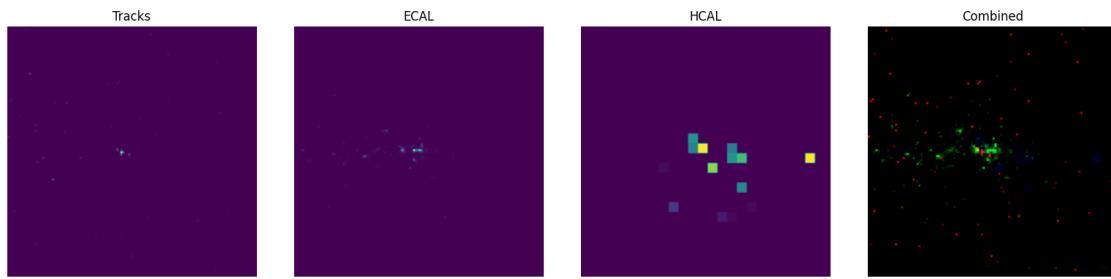


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

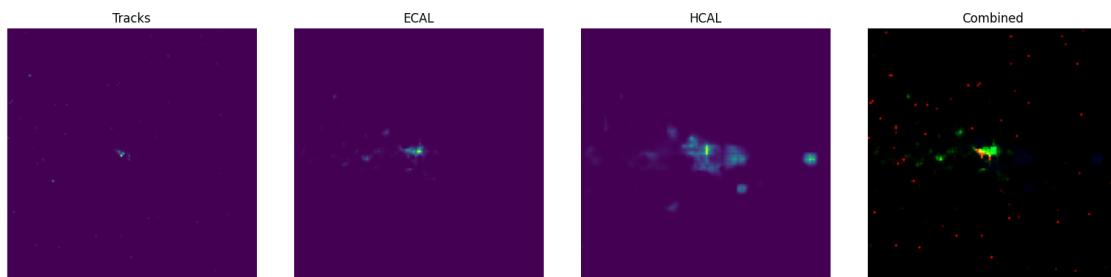


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

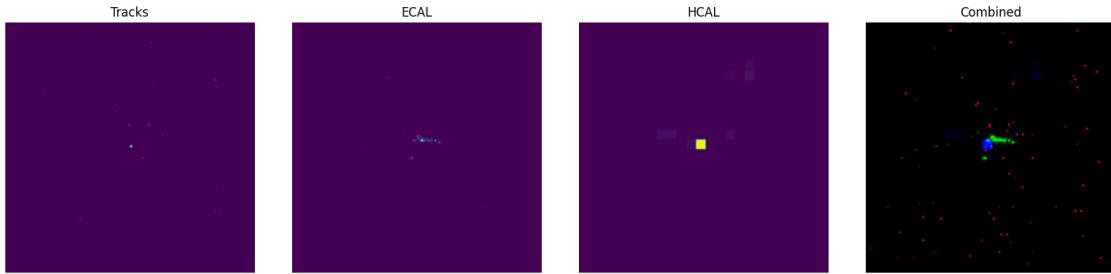


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

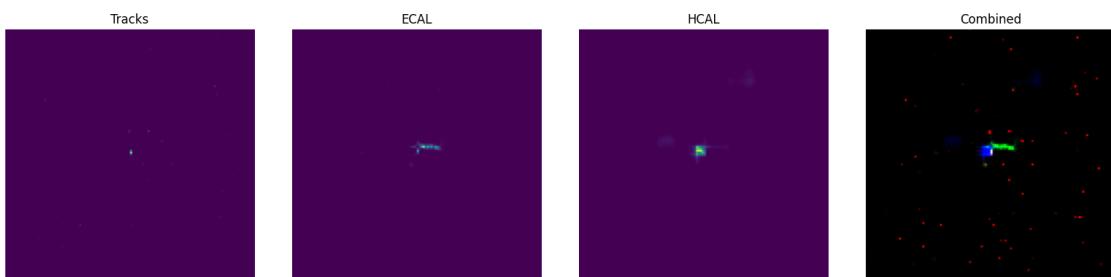


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



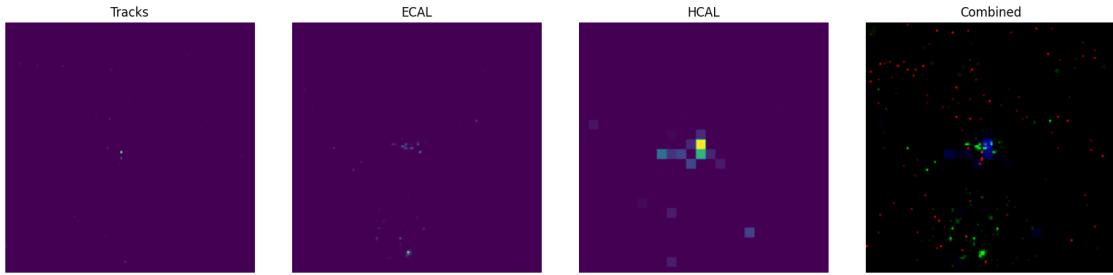
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



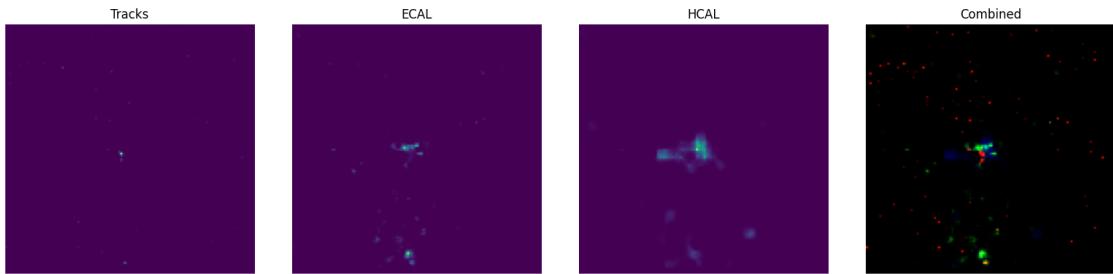
```

epoch: 71
100%|          | 625/625 [06:23<00:00,  1.63it/s]
train_loss: 0.0001325753801735118
epoch: 72
100%|          | 625/625 [06:23<00:00,  1.63it/s]
train_loss: 0.00013233414518181236
epoch: 73
100%|          | 625/625 [06:33<00:00,  1.59it/s]
train_loss: 0.00013217490962706506
epoch: 74
100%|          | 625/625 [06:24<00:00,  1.63it/s]
train_loss: 0.00013186789255123586
epoch: 75
100%|          | 625/625 [06:26<00:00,  1.62it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00013162496762815864
=====
```

Sample #0

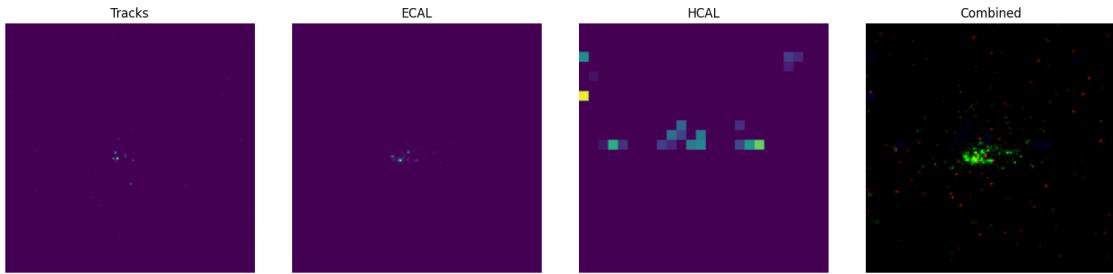


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

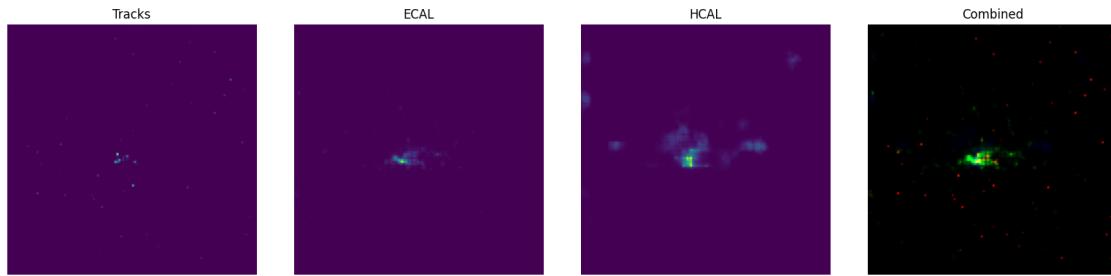


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

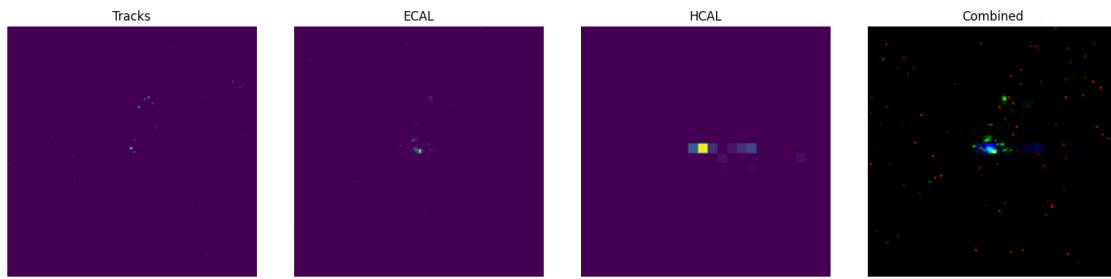


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

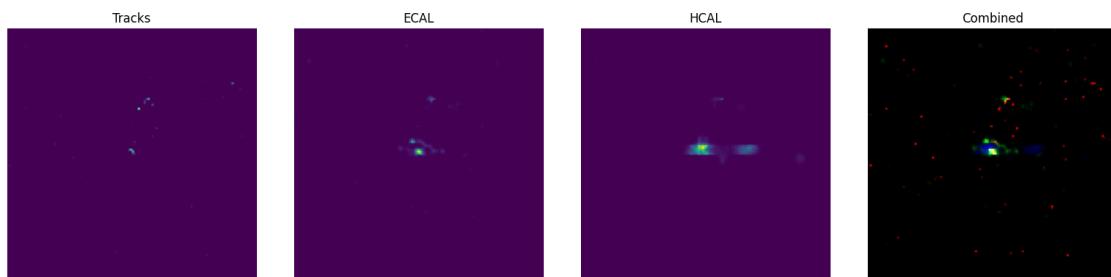


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

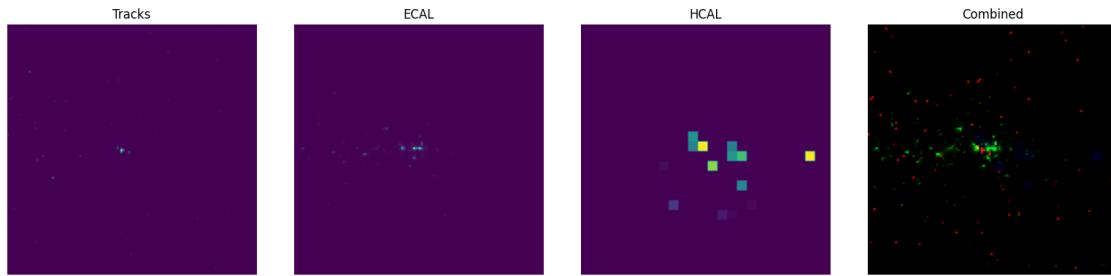


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

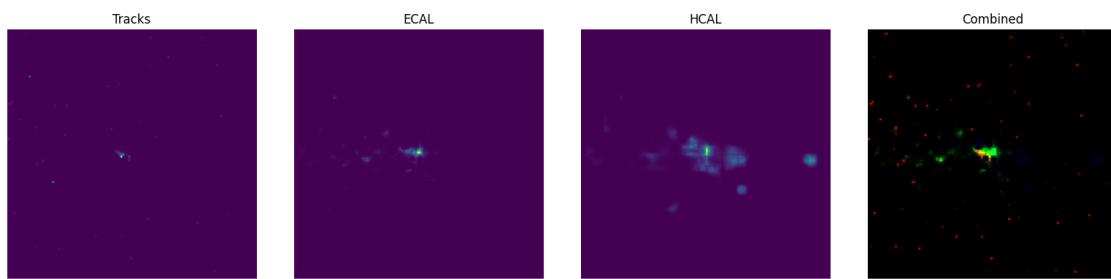


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

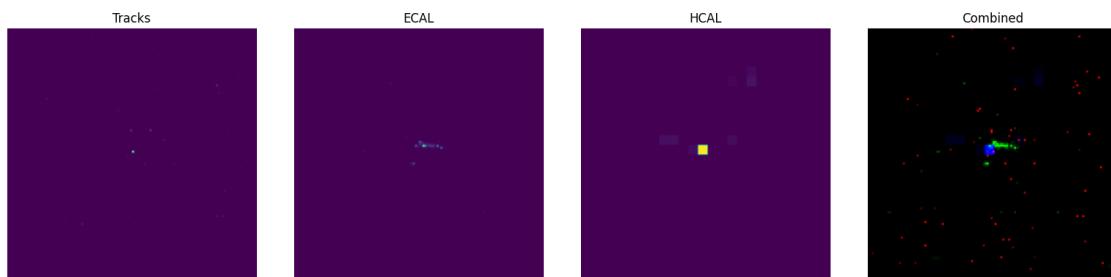


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

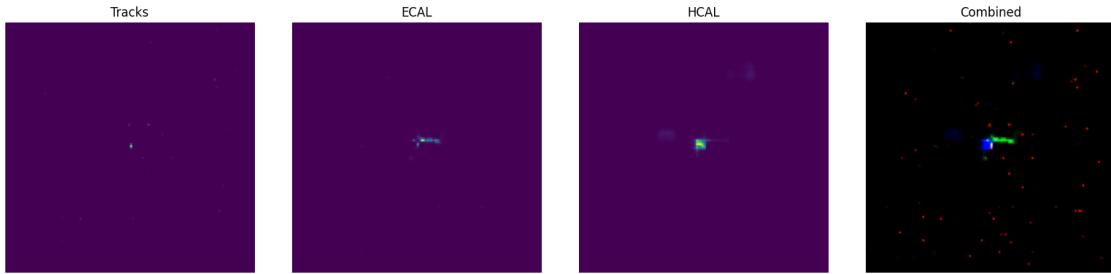


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 76

100% | 625/625 [06:28<00:00, 1.61it/s]

train_loss: 0.00013137997346930207

epoch: 77

100% | 625/625 [06:29<00:00, 1.60it/s]

train_loss: 0.00013115636992733925

epoch: 78

100% | 625/625 [06:29<00:00, 1.61it/s]

train_loss: 0.00013089479899499565

epoch: 79

100% | 625/625 [06:30<00:00, 1.60it/s]

train_loss: 0.0001306827039923519

epoch: 80

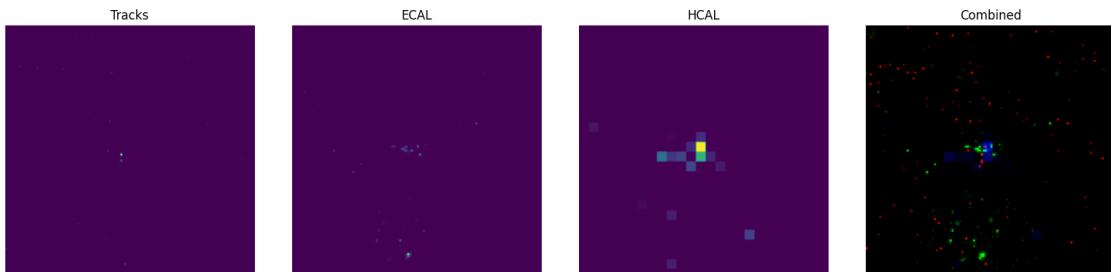
100% | 625/625 [06:31<00:00, 1.60it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

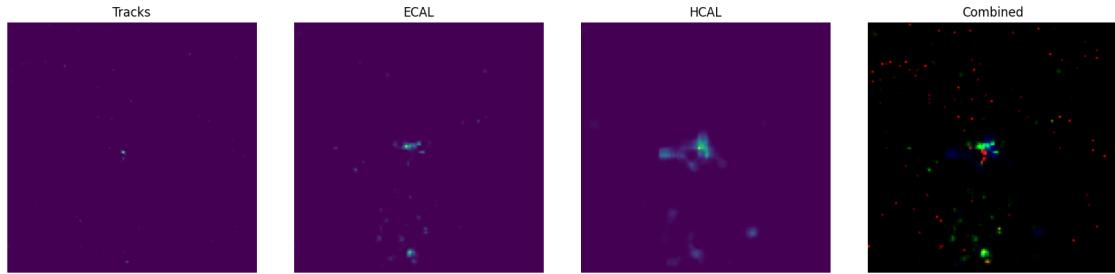
train_loss: 0.00013046567314304412

=====

Sample #0

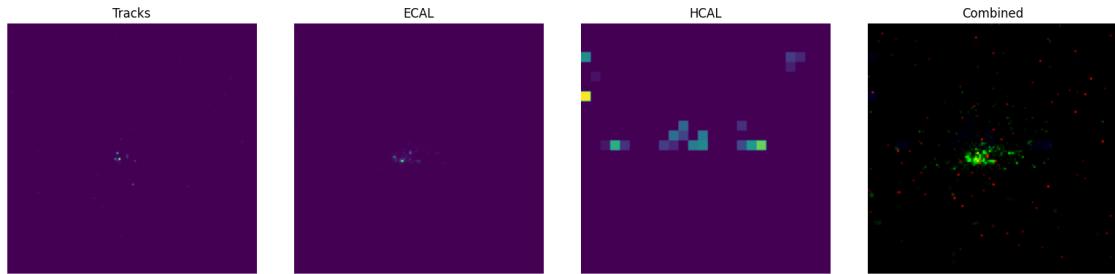


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

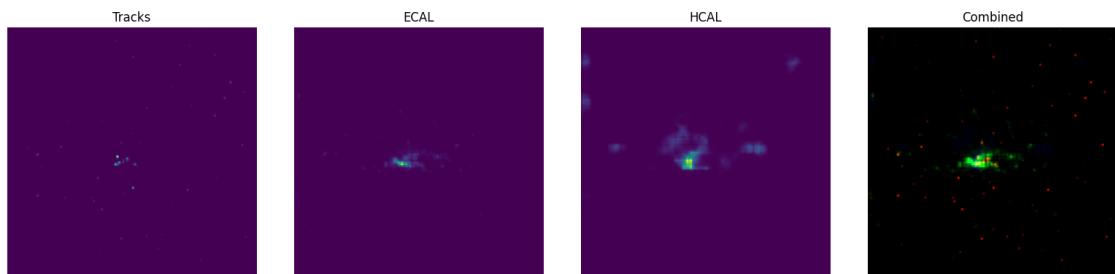


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

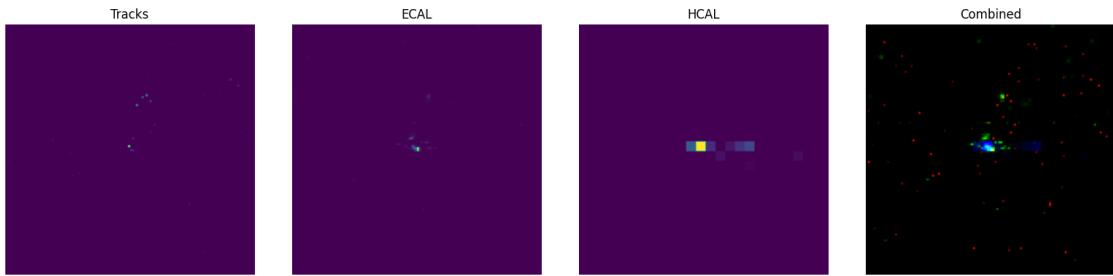


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

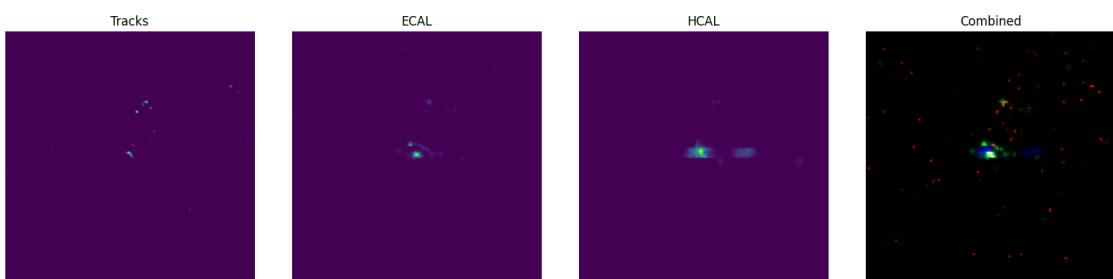


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

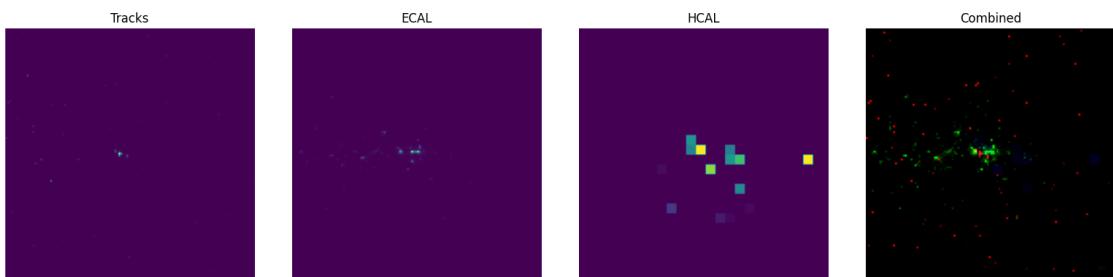


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

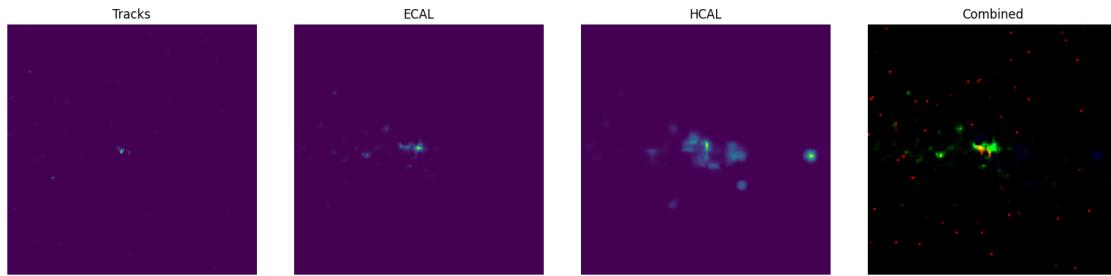


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

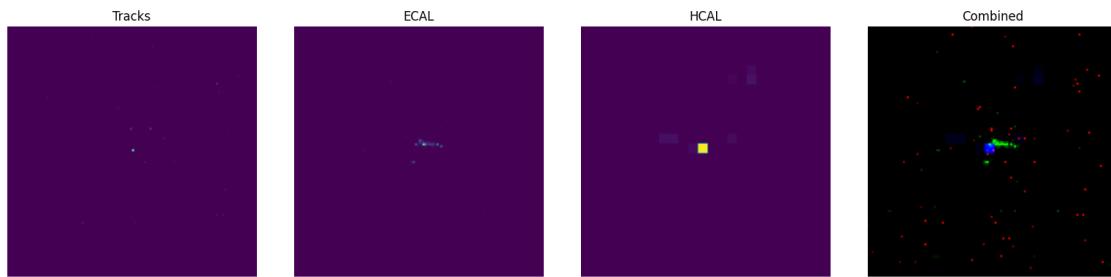


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

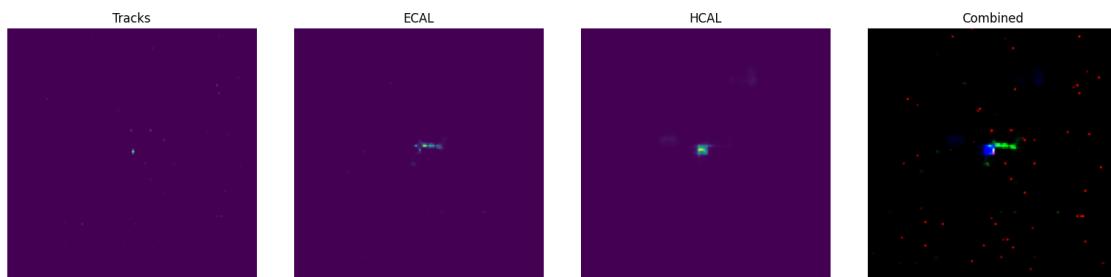


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 81

100%| 625/625 [06:32<00:00, 1.59it/s]

train_loss: 0.0001302681922679767

epoch: 82

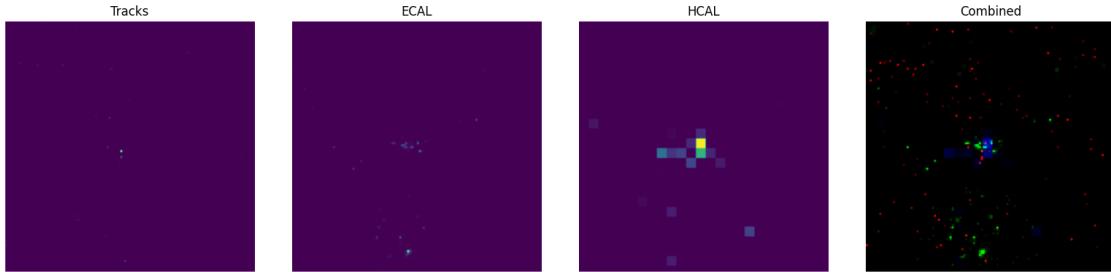
100%| 625/625 [06:32<00:00, 1.59it/s]

```
train_loss: 0.0001300991331692785
epoch: 83
100%|                                | 625/625 [06:33<00:00, 1.59it/s]

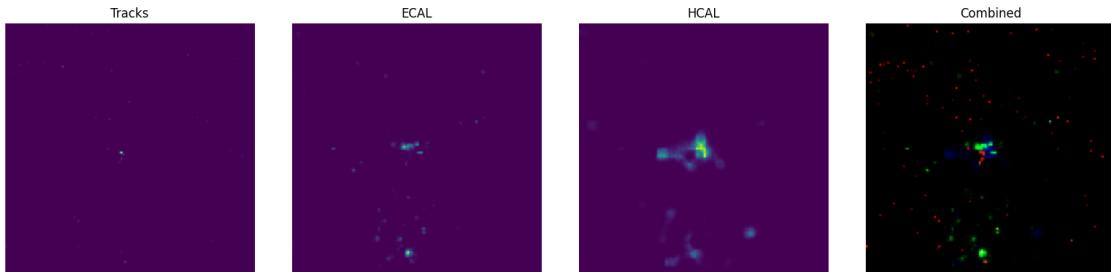
train_loss: 0.00012992516260128468
epoch: 84
100%|                                | 625/625 [06:35<00:00, 1.58it/s]

train_loss: 0.00012975444647017866
epoch: 85
100%|                                | 625/625 [06:35<00:00, 1.58it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00012960823872126638
=====
Sample #0
```

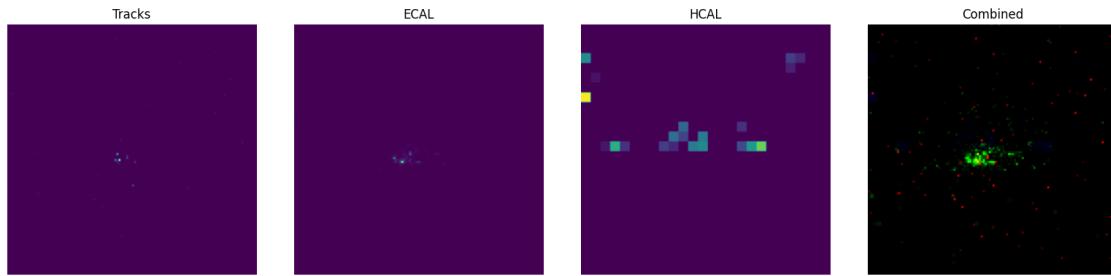


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

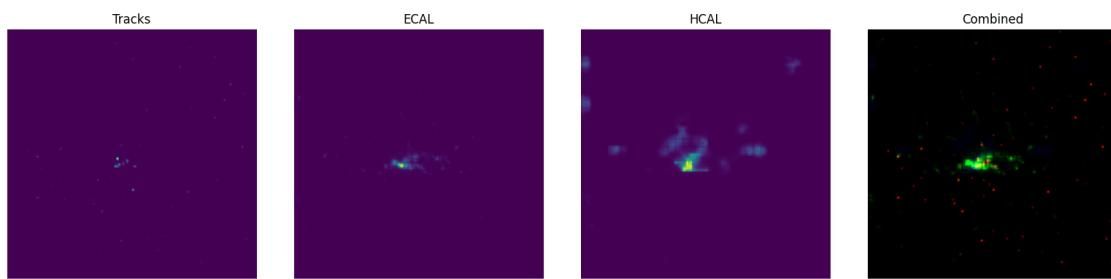


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

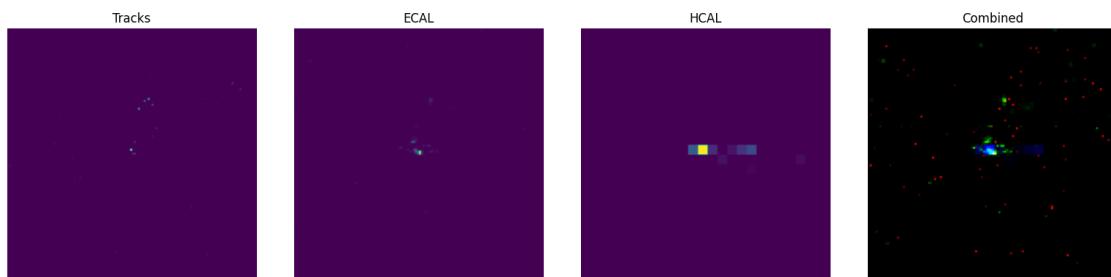


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

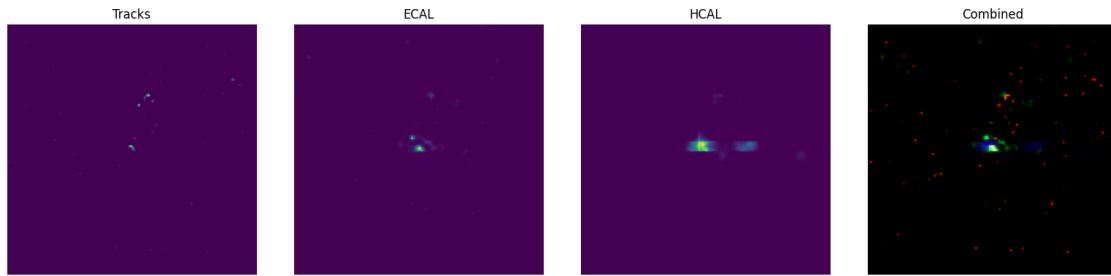


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

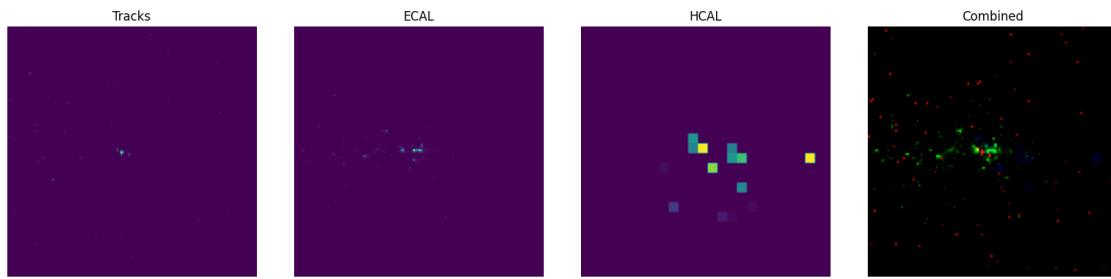


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

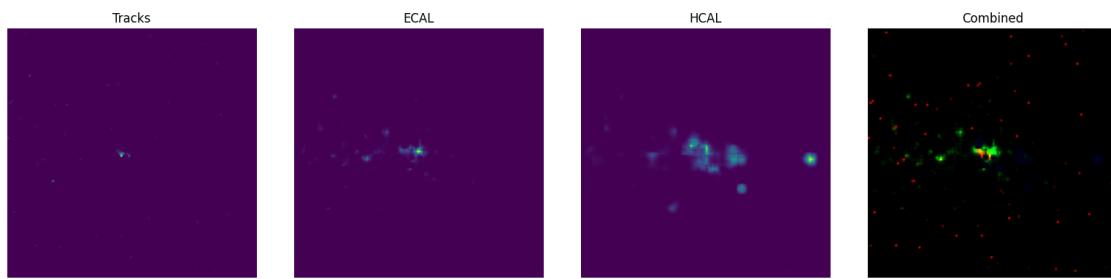


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

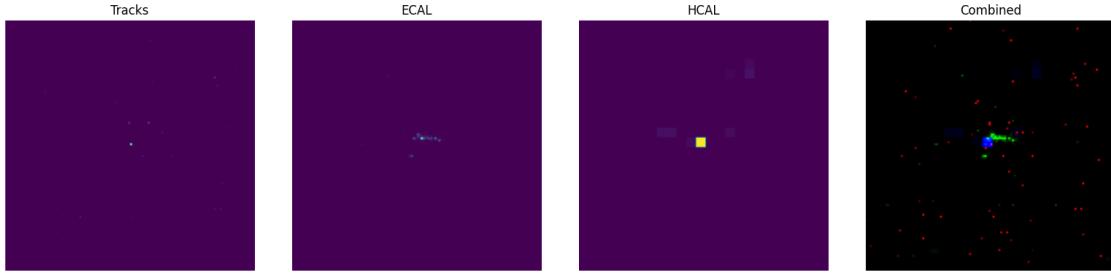


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

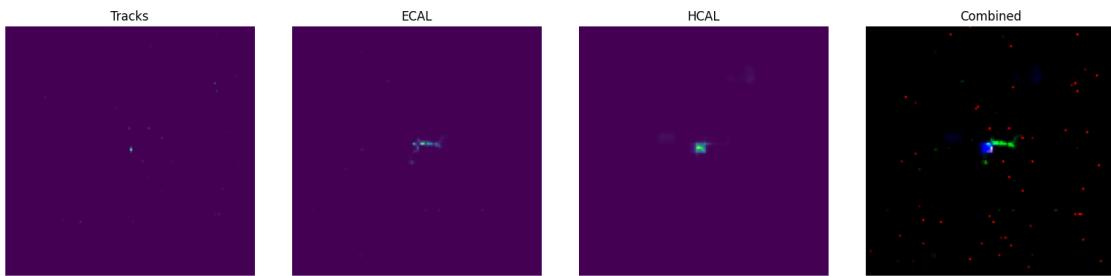


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



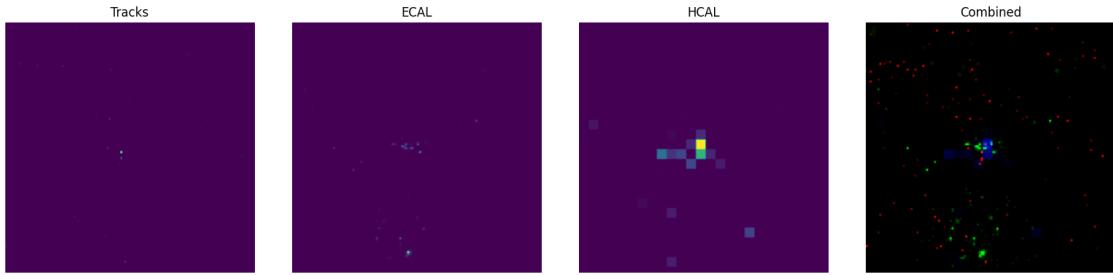
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



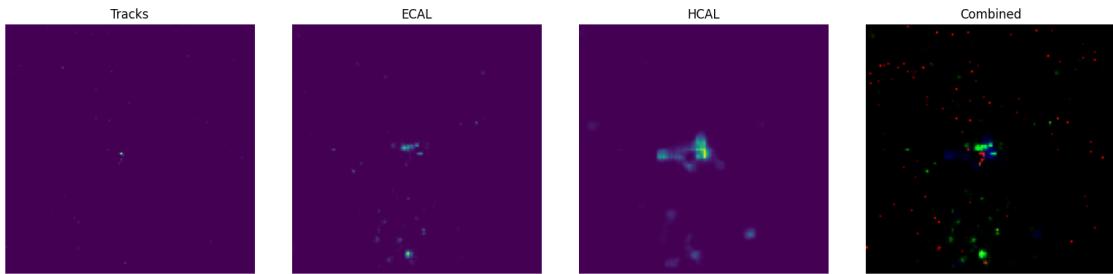
```

epoch: 86
100%|          | 625/625 [06:34<00:00,  1.58it/s]
train_loss: 0.00012946182580199093
epoch: 87
100%|          | 625/625 [06:35<00:00,  1.58it/s]
train_loss: 0.00012931996653787792
epoch: 88
100%|          | 625/625 [06:35<00:00,  1.58it/s]
train_loss: 0.0001292005109600723
epoch: 89
100%|          | 625/625 [06:36<00:00,  1.58it/s]
train_loss: 0.0001290837197098881
epoch: 90
100%|          | 625/625 [06:37<00:00,  1.57it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00012896920882631094
=====
```

Sample #0

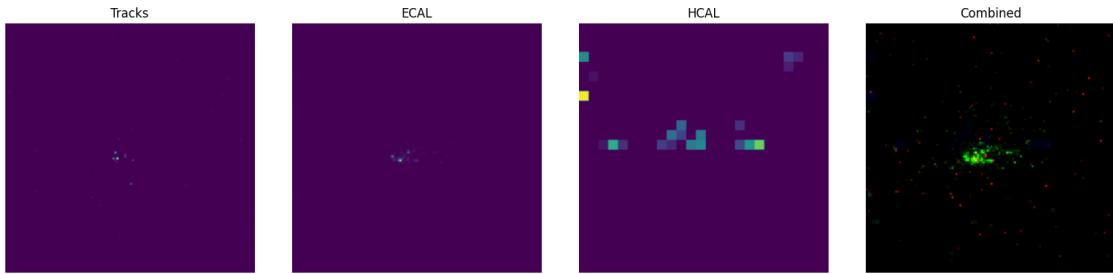


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

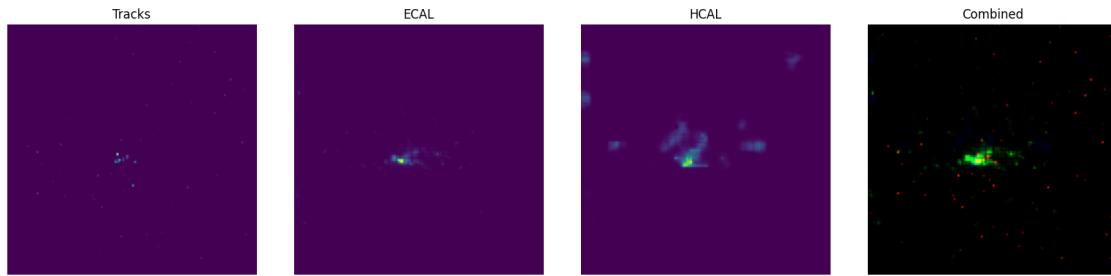


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

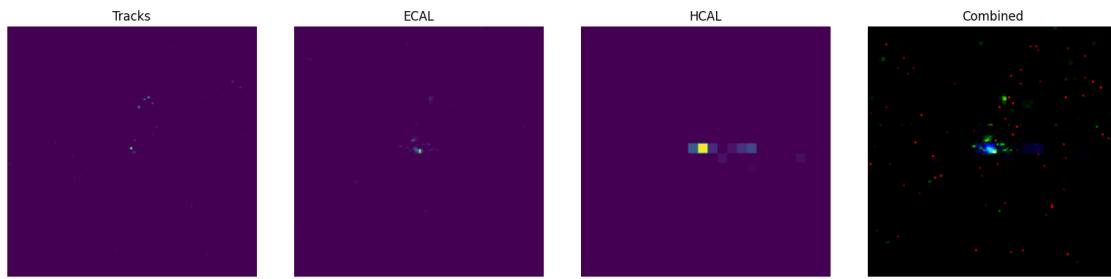


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

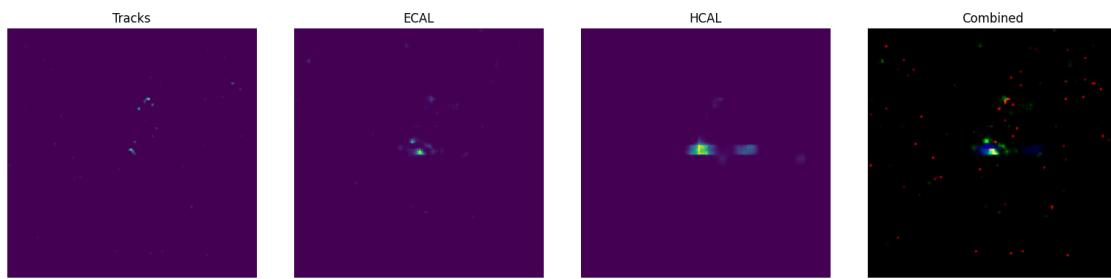


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

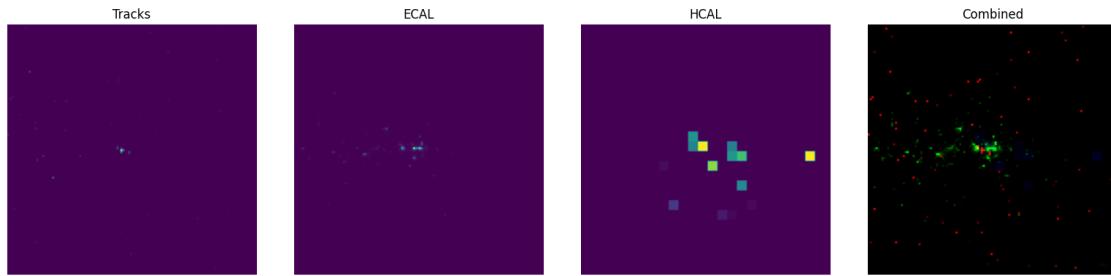


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

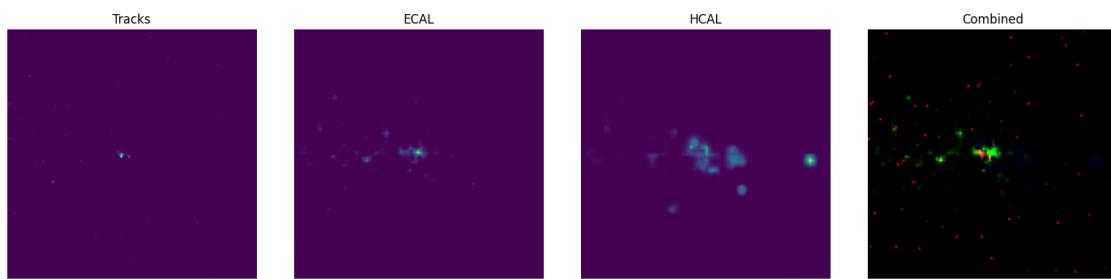


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

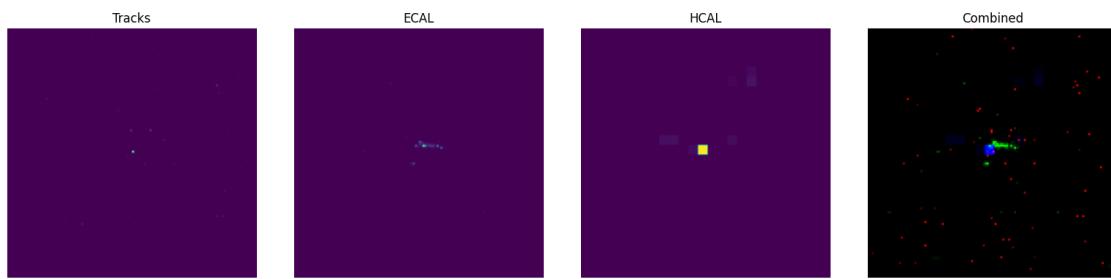


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

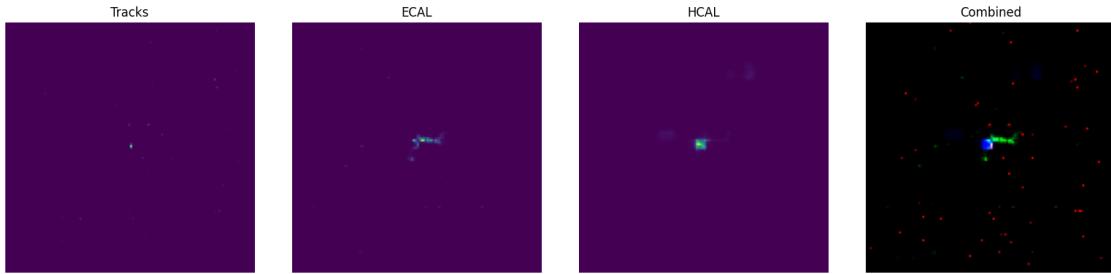


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 91

100% | 625/625 [06:39<00:00, 1.56it/s]

train_loss: 0.00012886046993080527

epoch: 92

100% | 625/625 [06:40<00:00, 1.56it/s]

train_loss: 0.0001287649555131793

epoch: 93

100% | 625/625 [06:41<00:00, 1.56it/s]

train_loss: 0.00012865321231074633

epoch: 94

100% | 625/625 [06:42<00:00, 1.55it/s]

train_loss: 0.00012856879052706063

epoch: 95

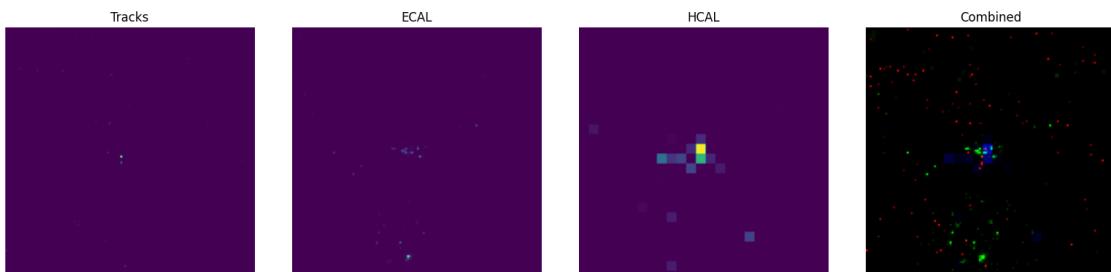
100% | 625/625 [06:40<00:00, 1.56it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

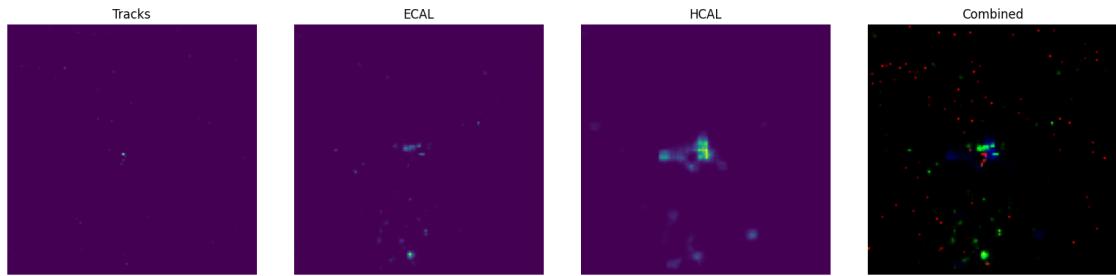
train_loss: 0.000128472793684341

=====

Sample #0

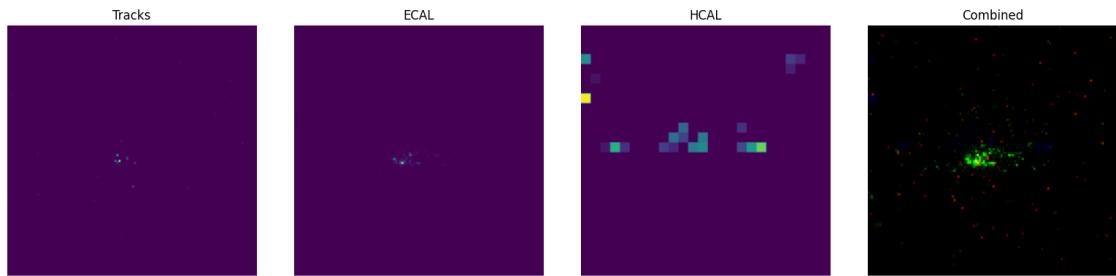


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

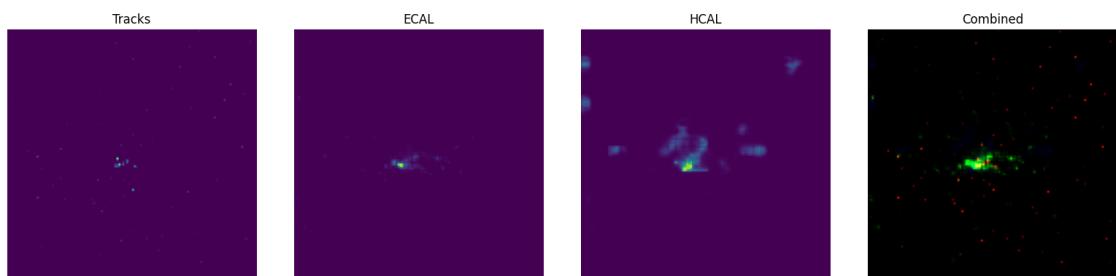


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

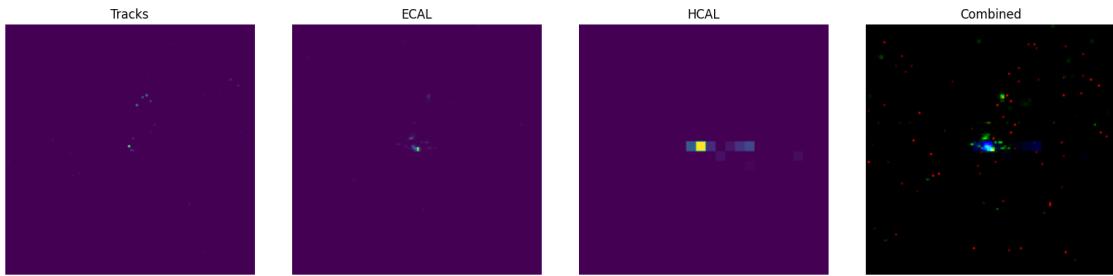


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

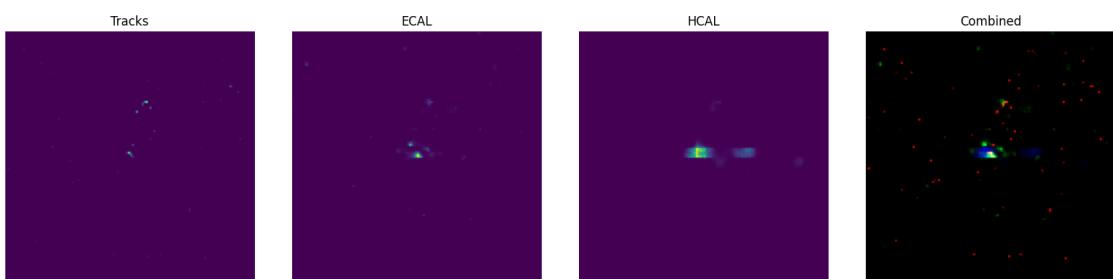


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

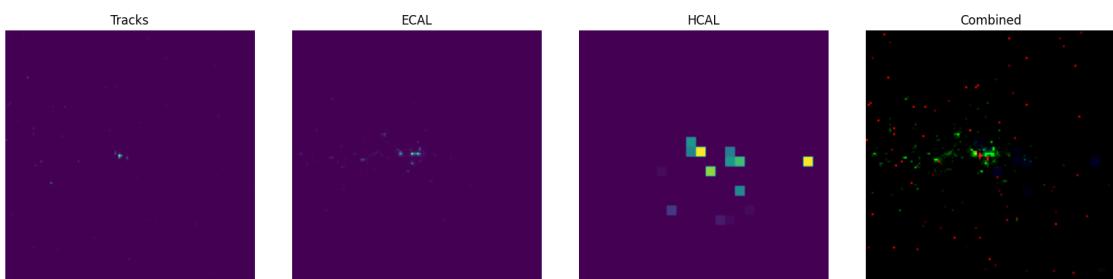


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

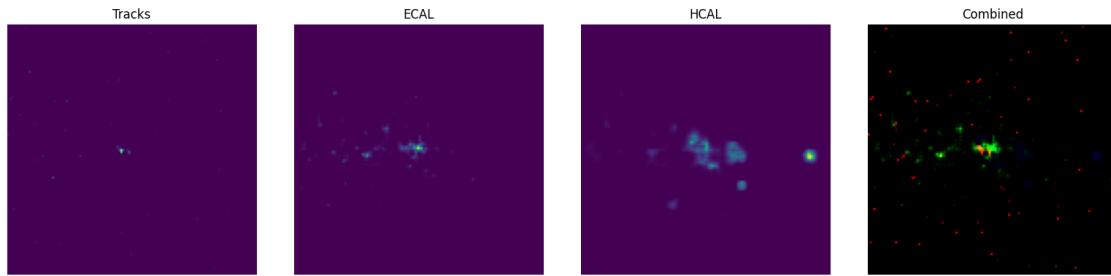


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

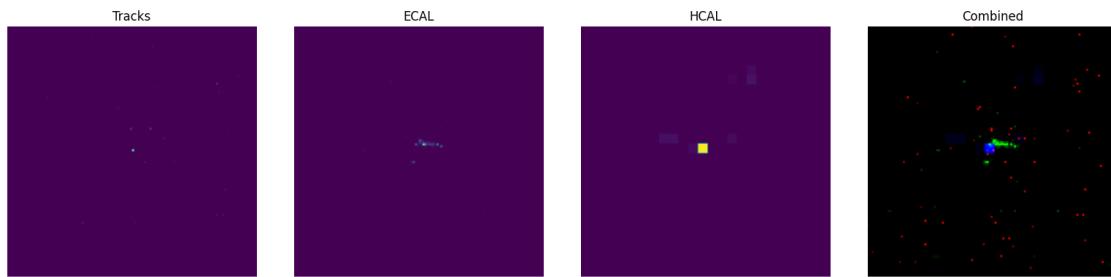


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

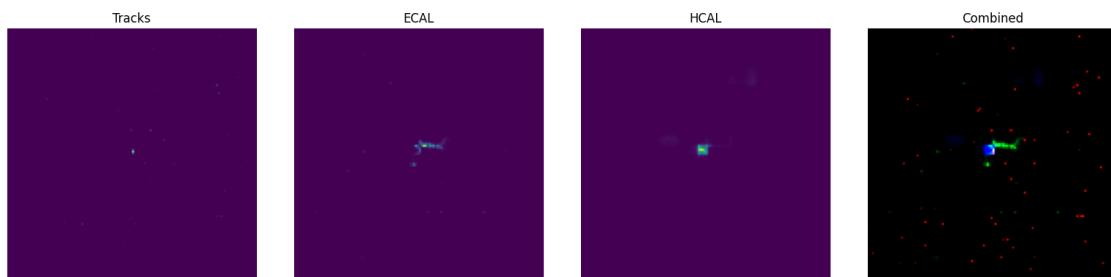


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 96

100%| 625/625 [06:41<00:00, 1.56it/s]

train_loss: 0.00012838184607680888

epoch: 97

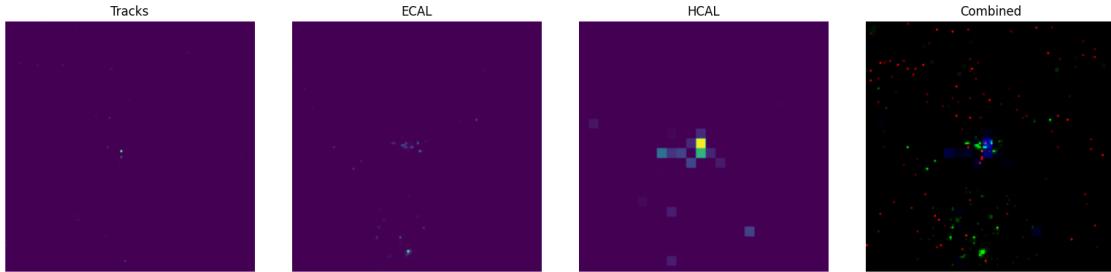
100%| 625/625 [06:42<00:00, 1.55it/s]

```
train_loss: 0.00012829383821226658
epoch: 98
100%|                                | 625/625 [06:43<00:00, 1.55it/s]

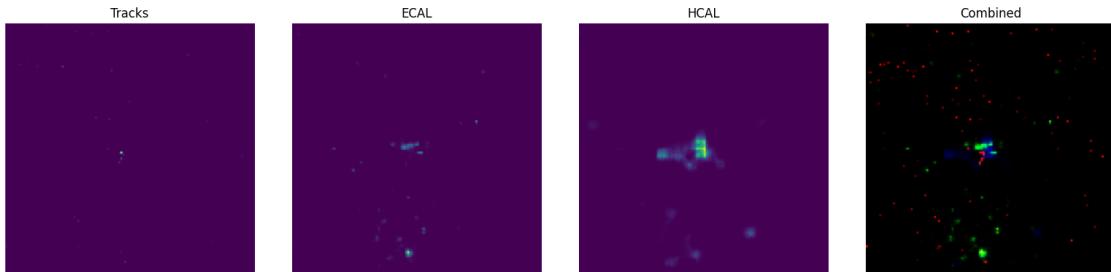
train_loss: 0.00012820853888988496
epoch: 99
100%|                                | 625/625 [06:44<00:00, 1.54it/s]

train_loss: 0.0001281284609809518
epoch: 100
100%|                                | 625/625 [06:44<00:00, 1.55it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00012804149712901562
=====
Sample #0
```

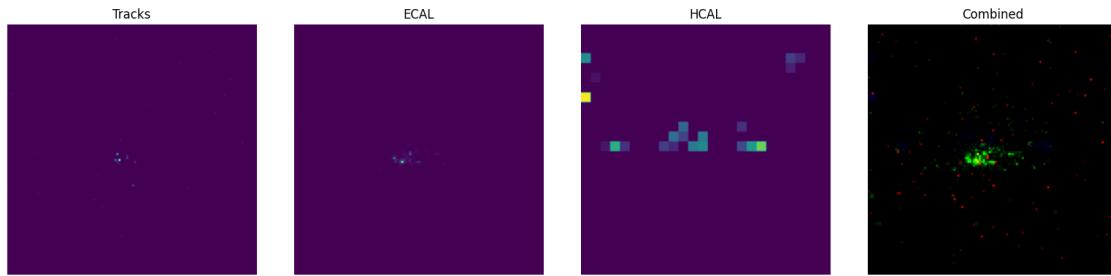


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

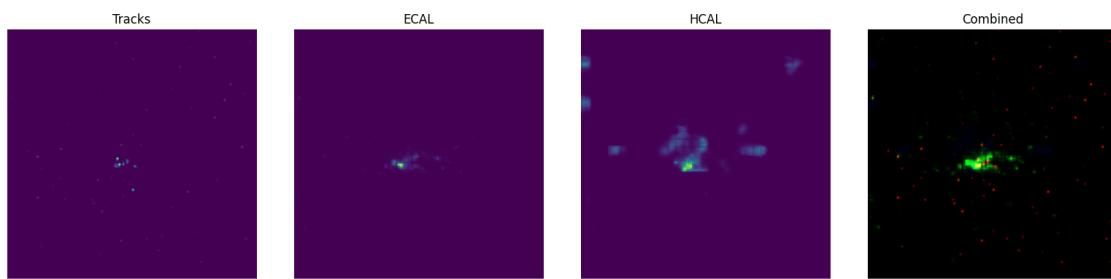


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

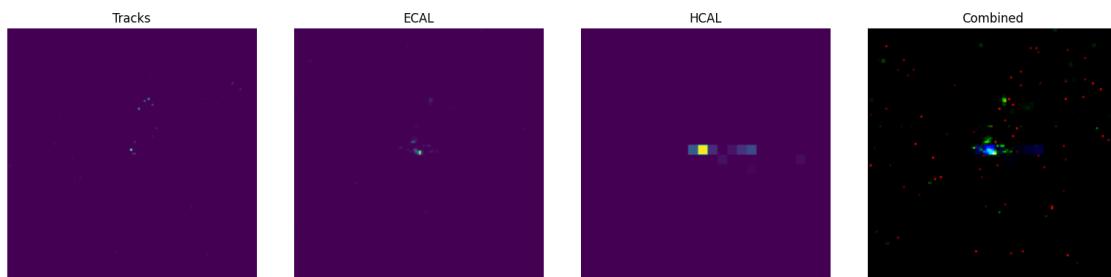


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

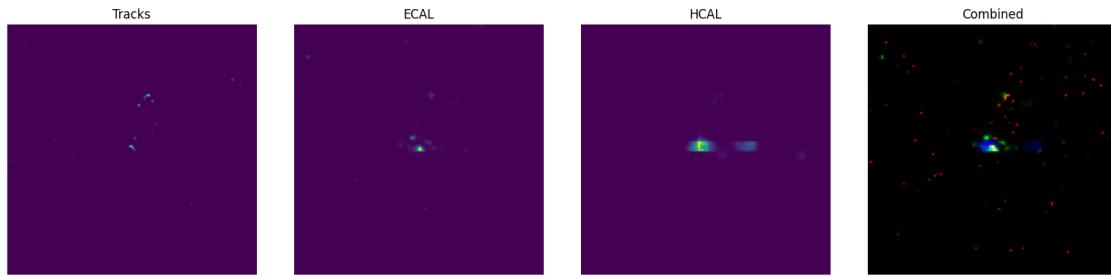


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

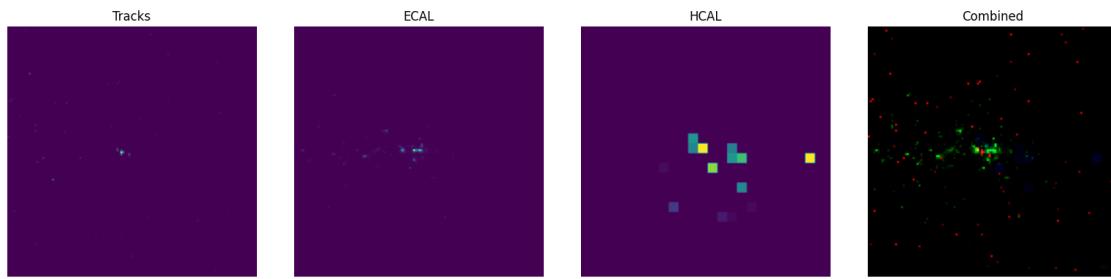


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

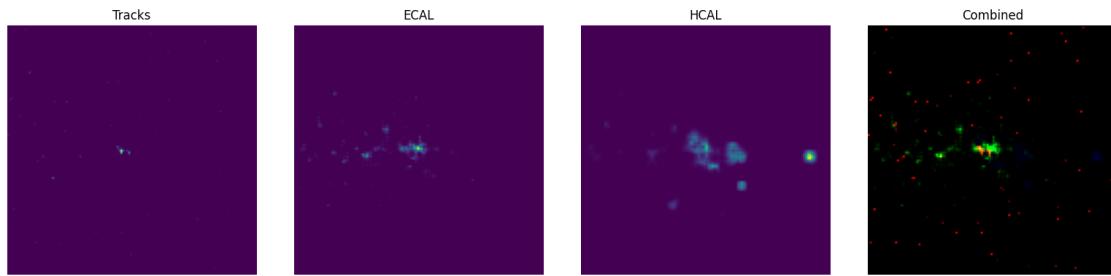


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

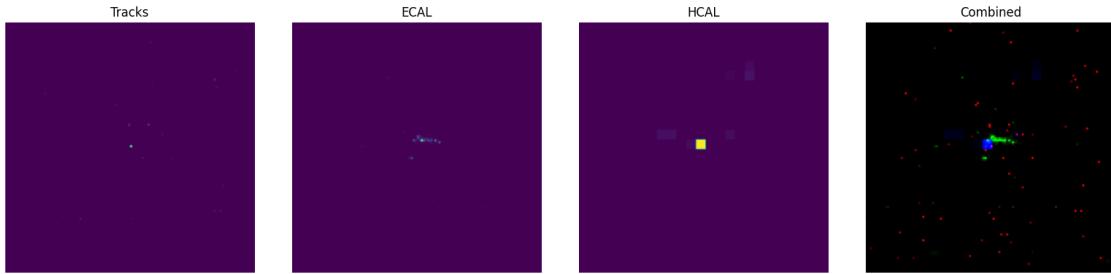


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

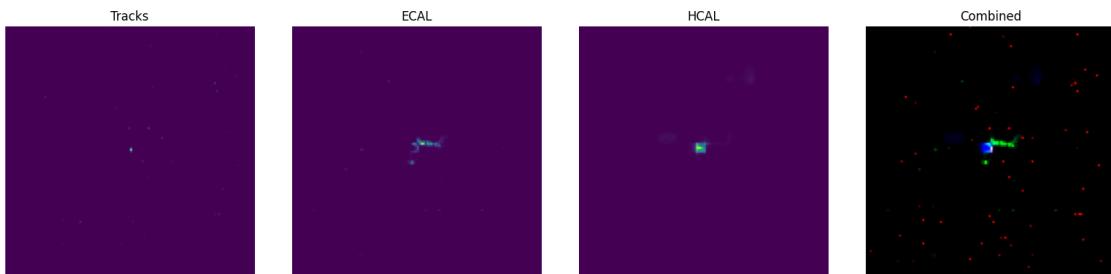


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

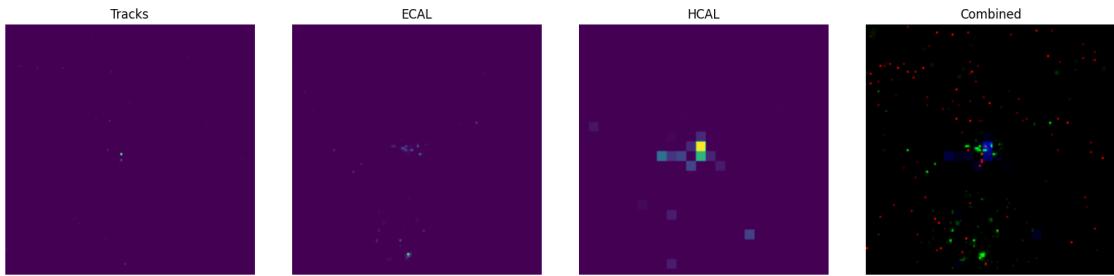


```

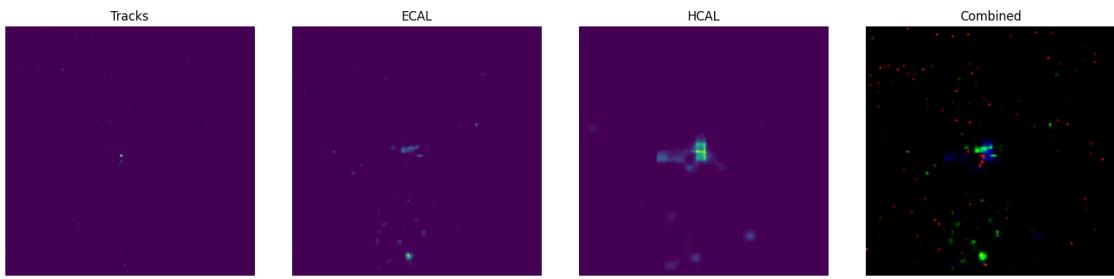
epoch: 101
100%|          | 625/625 [06:44<00:00,  1.55it/s]
train_loss: 0.00012795251349452882
epoch: 102
100%|          | 625/625 [06:44<00:00,  1.55it/s]
train_loss: 0.00012787473250646145
epoch: 103
100%|          | 625/625 [06:45<00:00,  1.54it/s]
train_loss: 0.00012779943109489977
epoch: 104
100%|          | 625/625 [06:46<00:00,  1.54it/s]
train_loss: 0.00012771931141614915
epoch: 105
100%|          | 625/625 [06:45<00:00,  1.54it/s]
train_loss: 0.00012764384443871677
=====
Sample #0

```

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

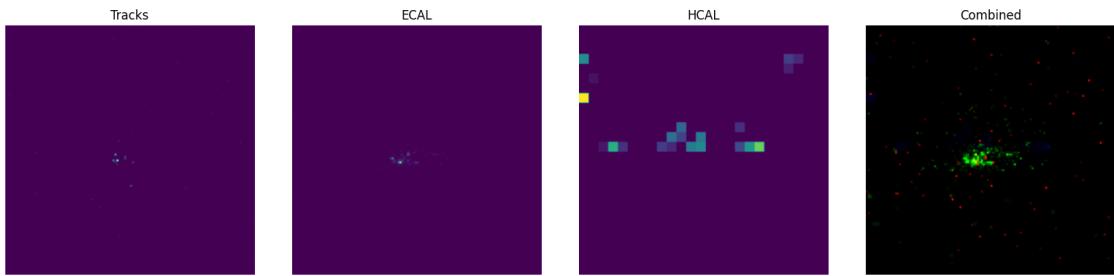


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

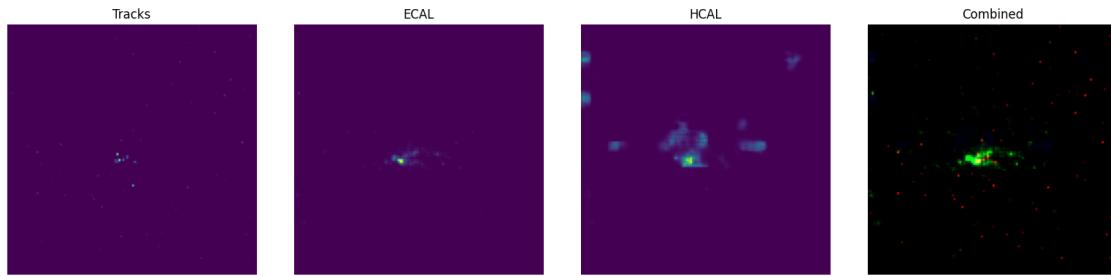


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

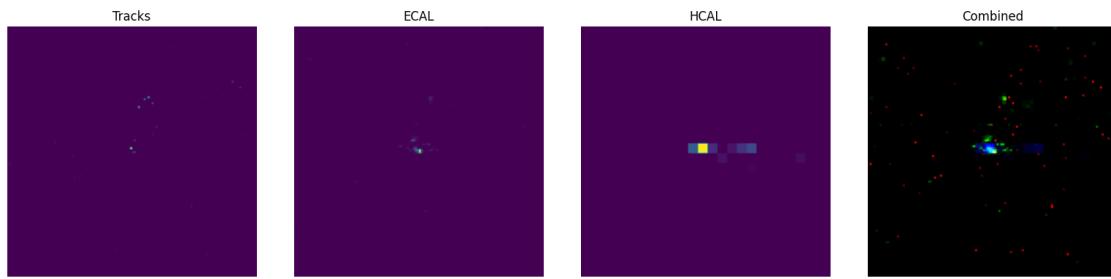


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

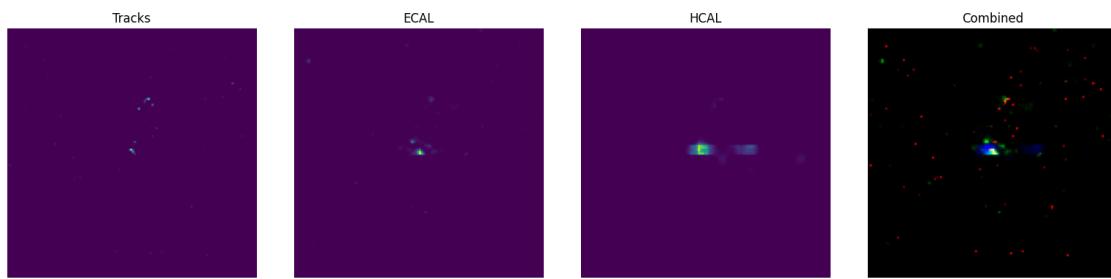


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

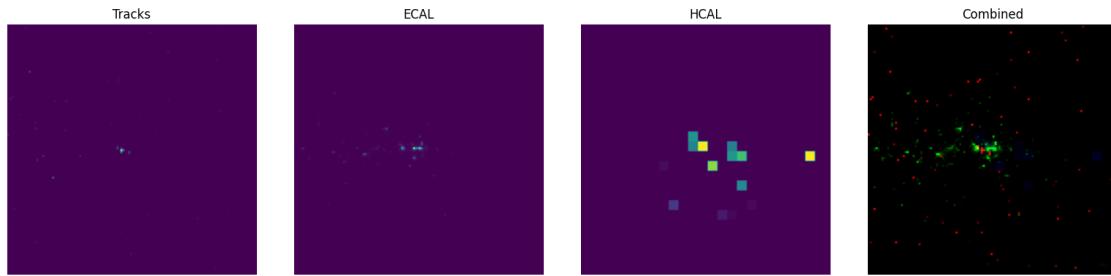


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

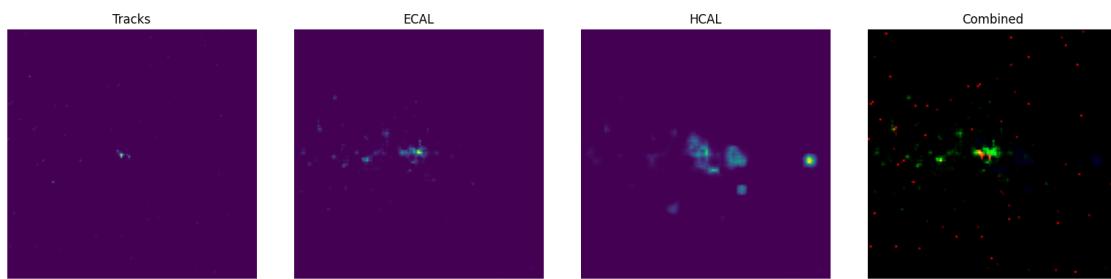


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

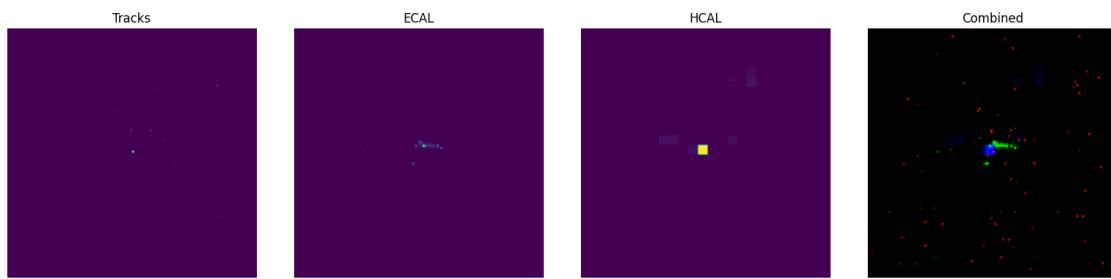


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

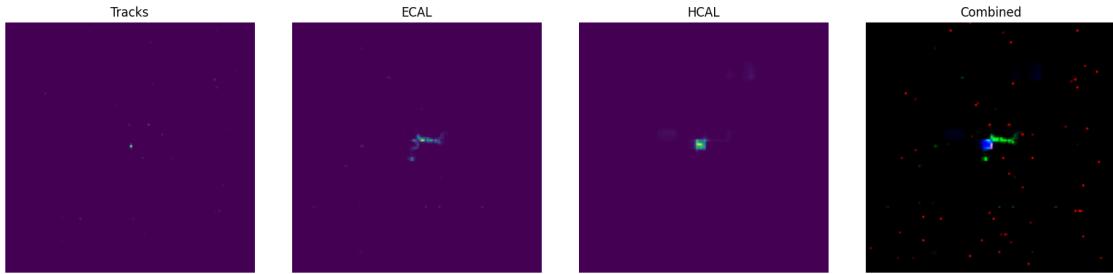


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 106

100% | 625/625 [06:46<00:00, 1.54it/s]

train_loss: 0.0001275653845164925

epoch: 107

100% | 625/625 [06:47<00:00, 1.53it/s]

train_loss: 0.00012749293289380148

epoch: 108

100% | 625/625 [06:47<00:00, 1.53it/s]

train_loss: 0.00012741822481621056

epoch: 109

100% | 625/625 [06:47<00:00, 1.53it/s]

train_loss: 0.00012734024793608115

epoch: 110

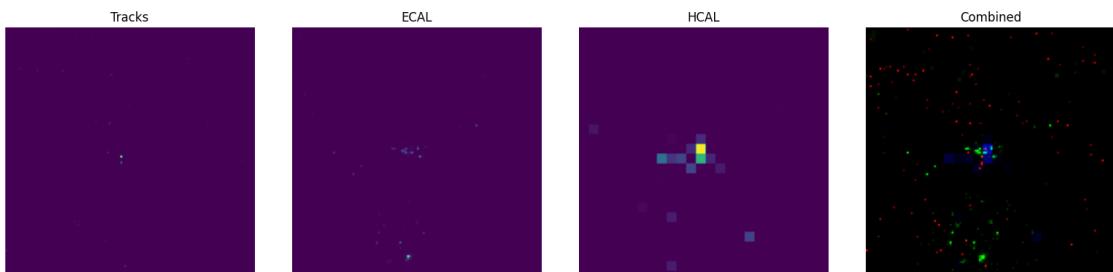
100% | 625/625 [06:48<00:00, 1.53it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

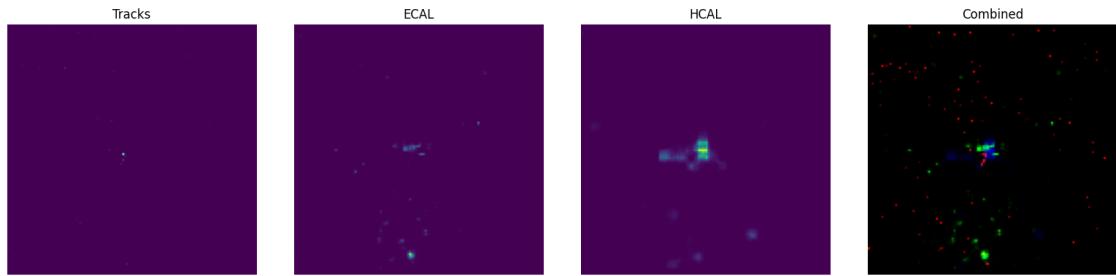
train_loss: 0.00012726632637204602

=====

Sample #0

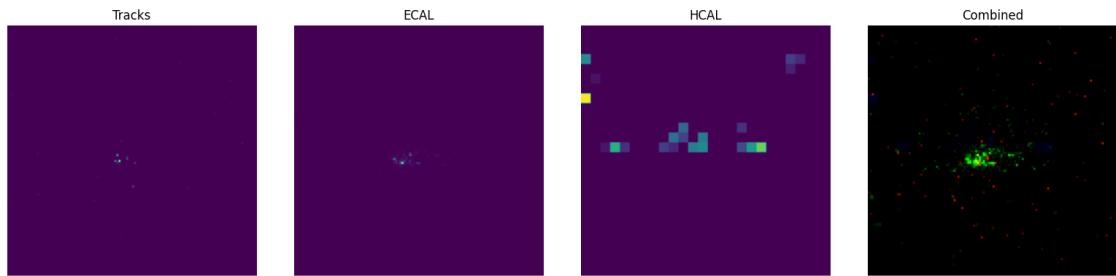


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

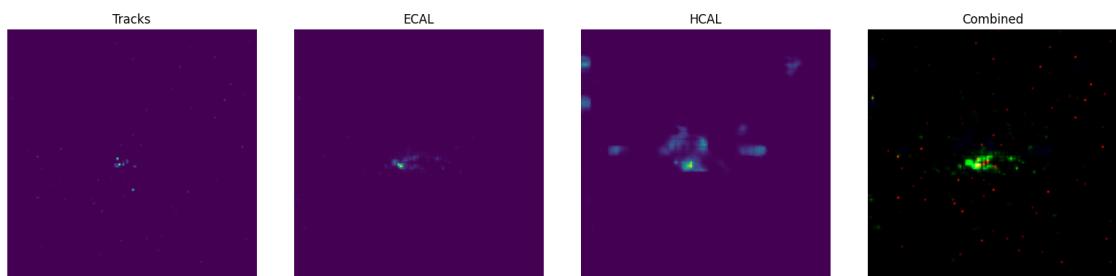


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

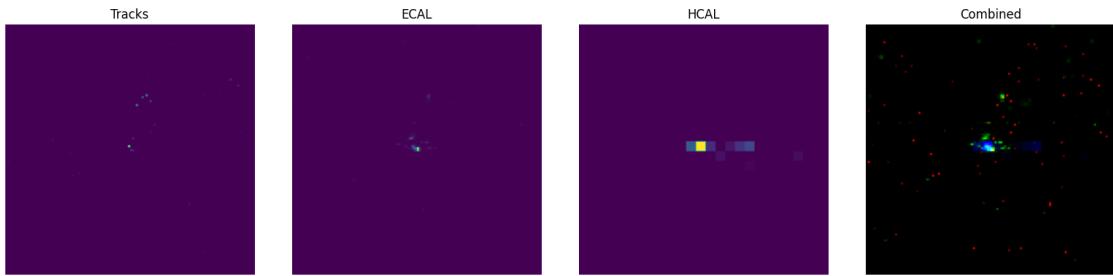


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

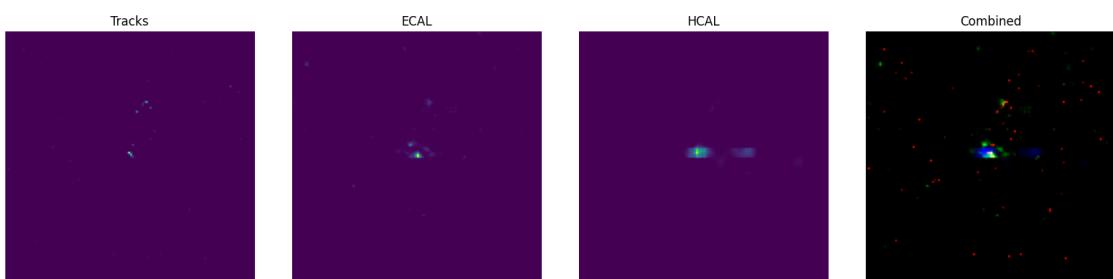


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

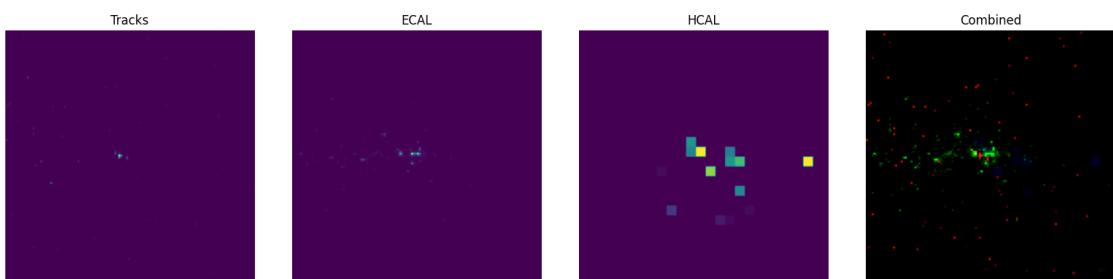


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

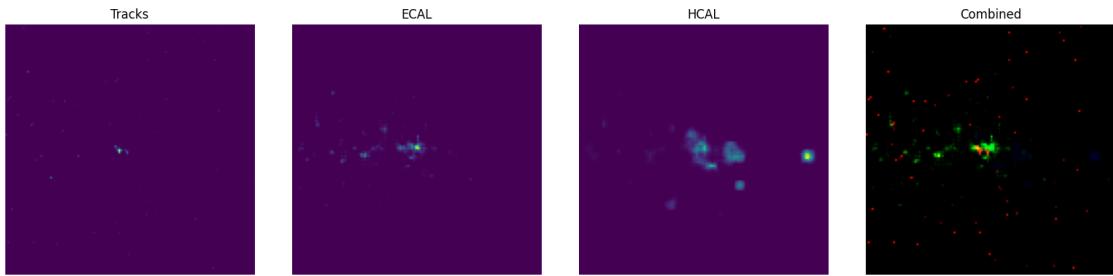


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

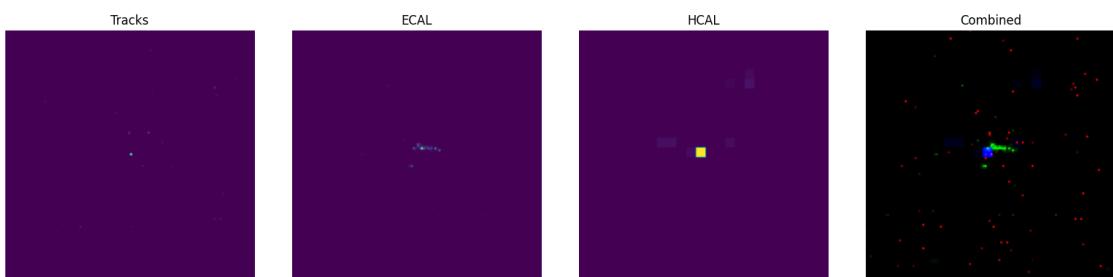


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

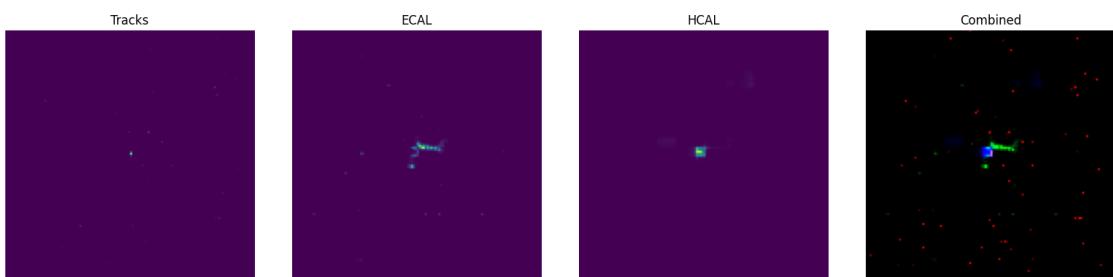


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 111

100%| 625/625 [06:48<00:00, 1.53it/s]

train_loss: 0.0001271899746498093

epoch: 112

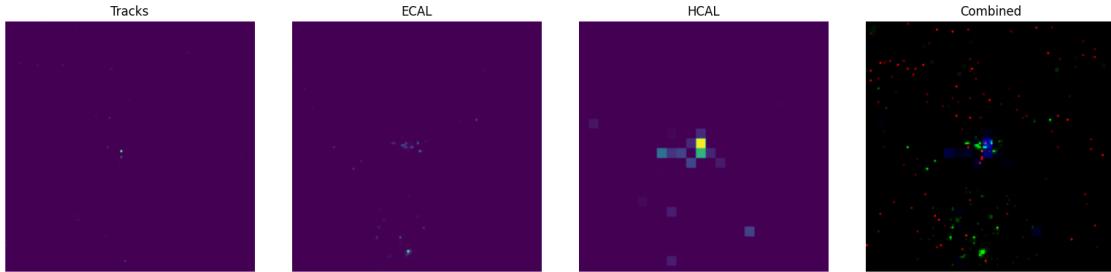
100%| 625/625 [06:48<00:00, 1.53it/s]

```
train_loss: 0.00012711485363543033
epoch: 113
100%|                                | 625/625 [06:48<00:00, 1.53it/s]

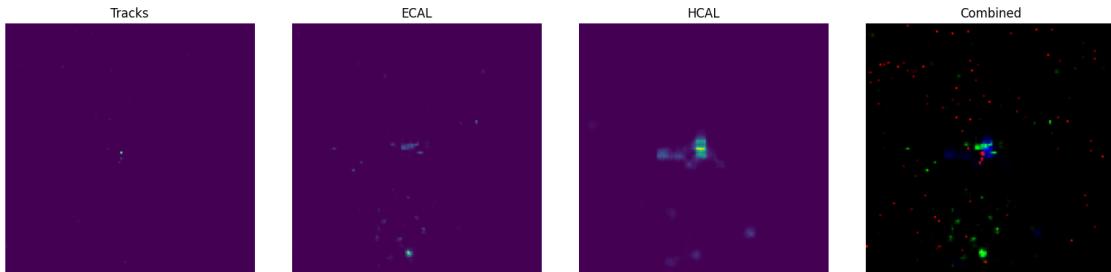
train_loss: 0.00012704431193415075
epoch: 114
100%|                                | 625/625 [06:49<00:00, 1.53it/s]

train_loss: 0.00012696932691615075
epoch: 115
100%|                                | 625/625 [06:49<00:00, 1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001269015529192984
=====
Sample #0
```

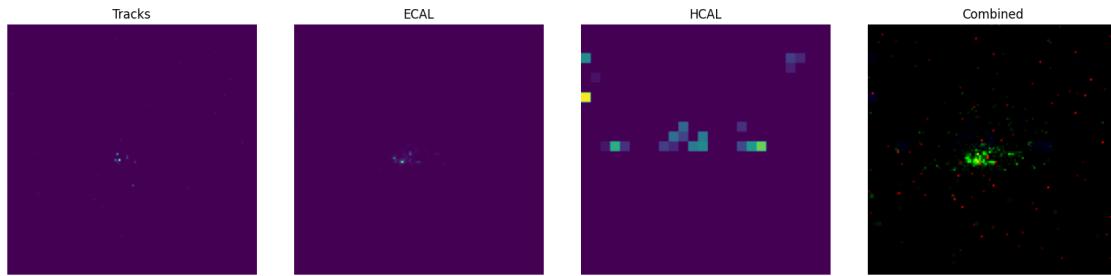


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

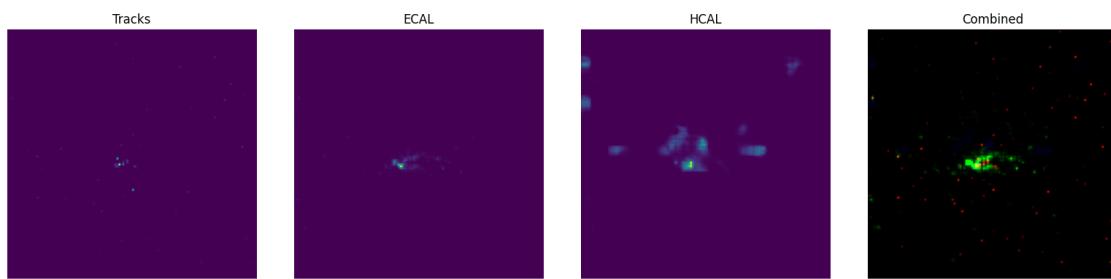


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

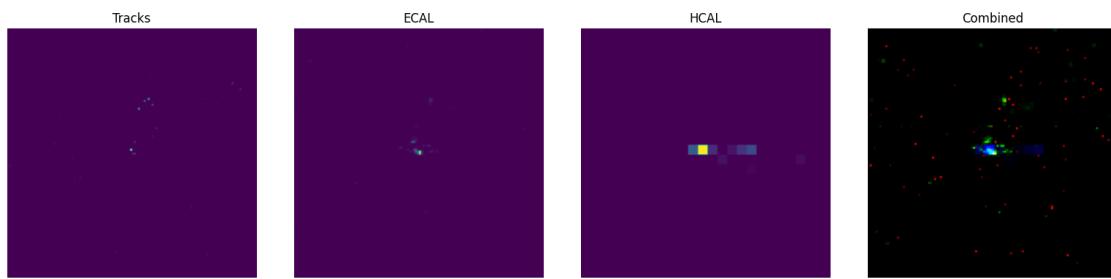


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

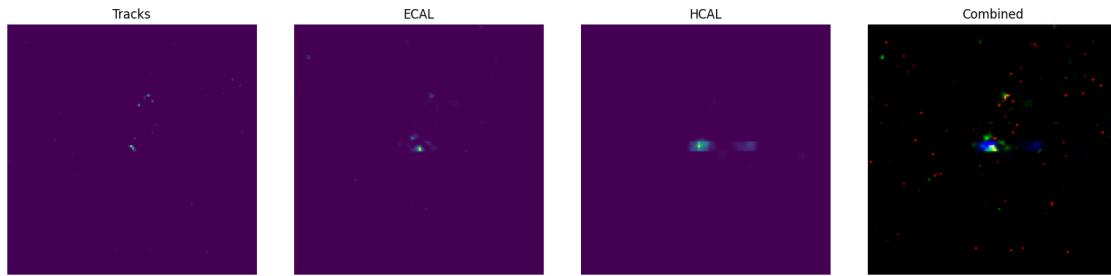


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

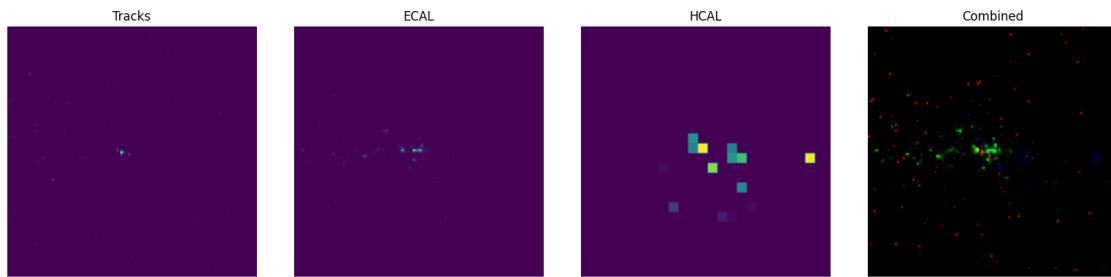


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

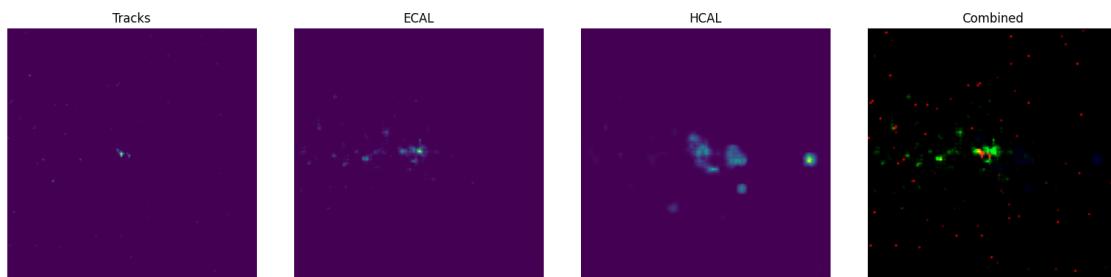


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

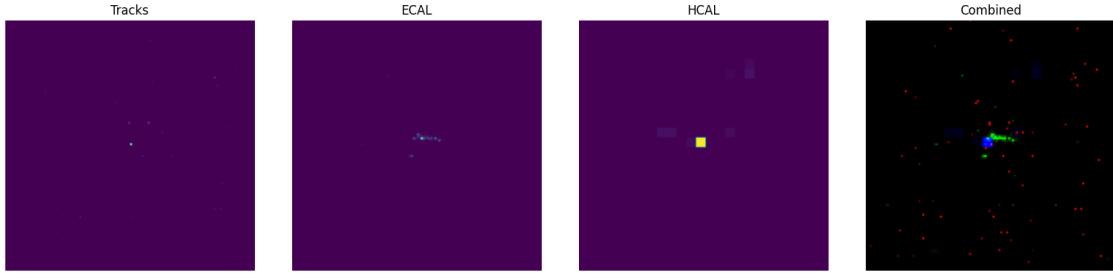


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

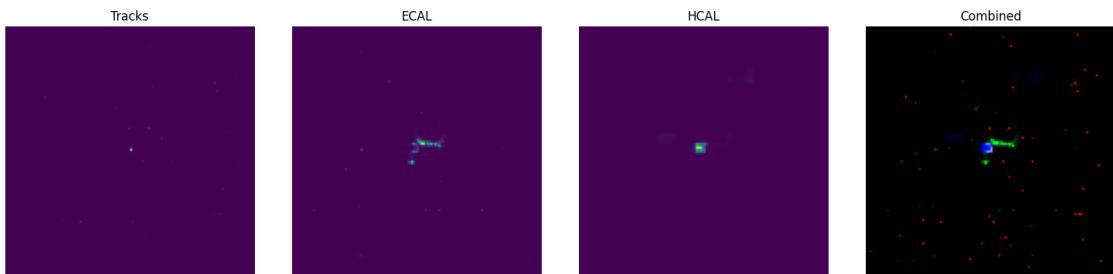


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



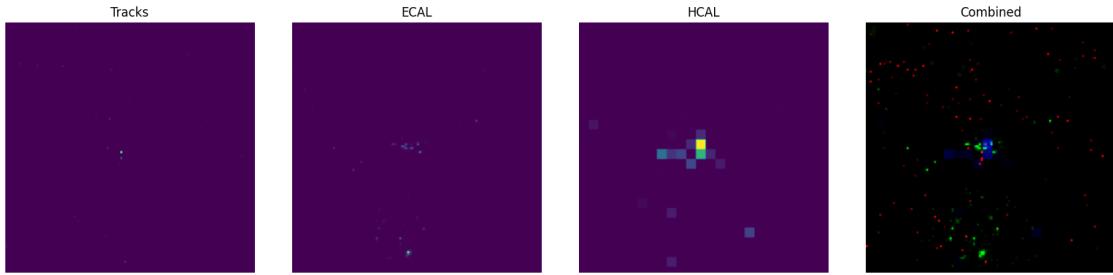
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



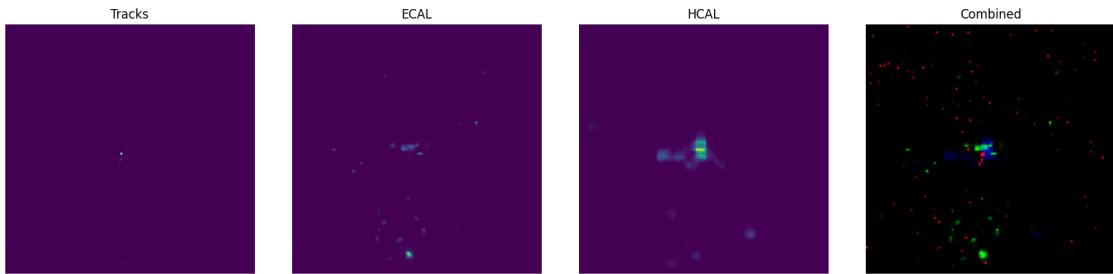
```

epoch: 116
100%|          | 625/625 [06:49<00:00,  1.53it/s]
train_loss: 0.00012682713947724552
epoch: 117
100%|          | 625/625 [06:50<00:00,  1.52it/s]
train_loss: 0.00012675785332685337
epoch: 118
100%|          | 625/625 [06:50<00:00,  1.52it/s]
train_loss: 0.00012669221457326784
epoch: 119
100%|          | 625/625 [06:50<00:00,  1.52it/s]
train_loss: 0.00012662653386360034
epoch: 120
100%|          | 625/625 [06:49<00:00,  1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00012655599131248892
=====
```

Sample #0

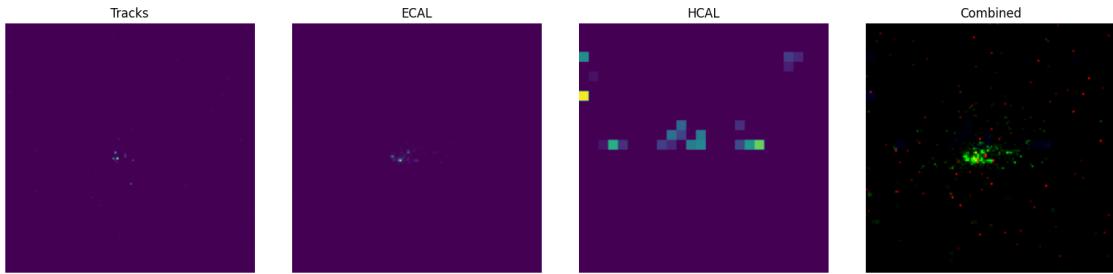


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

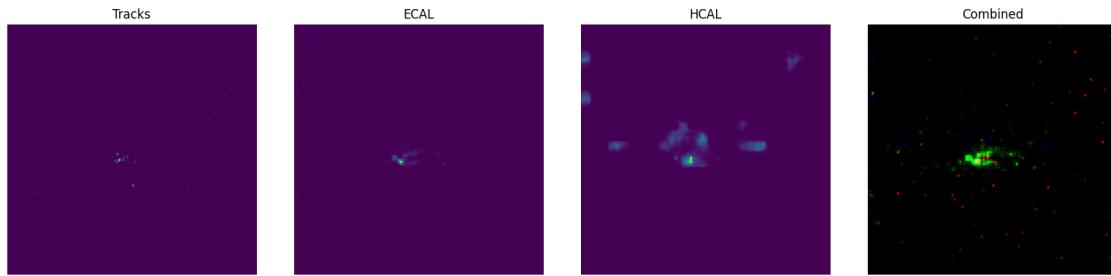


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

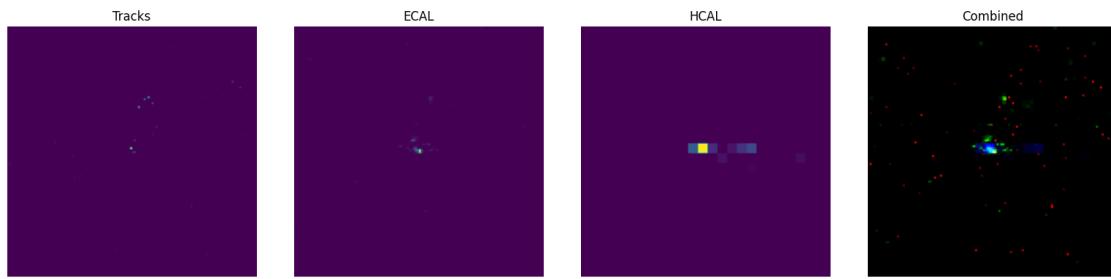


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

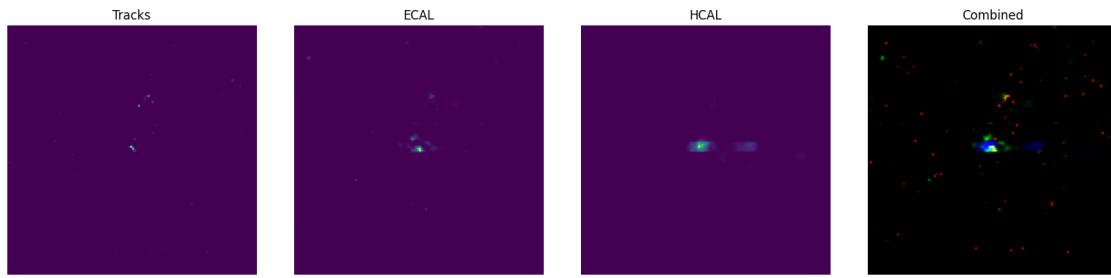


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

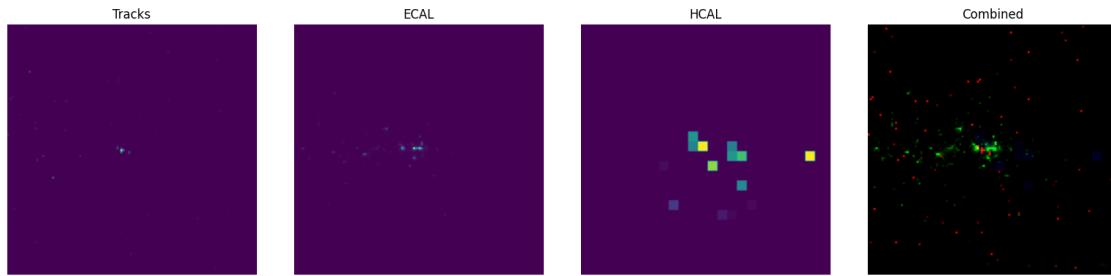


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

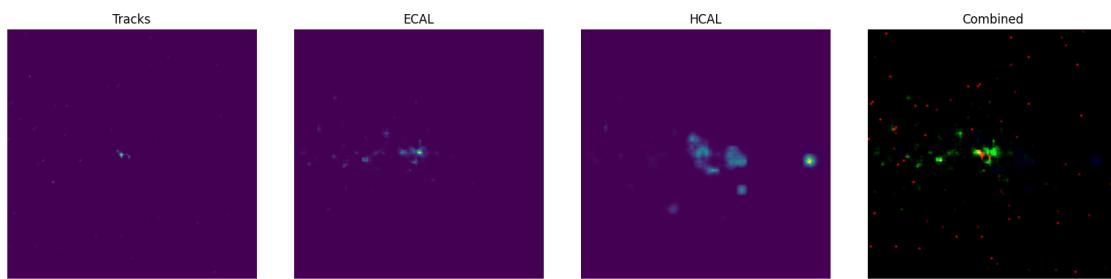


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

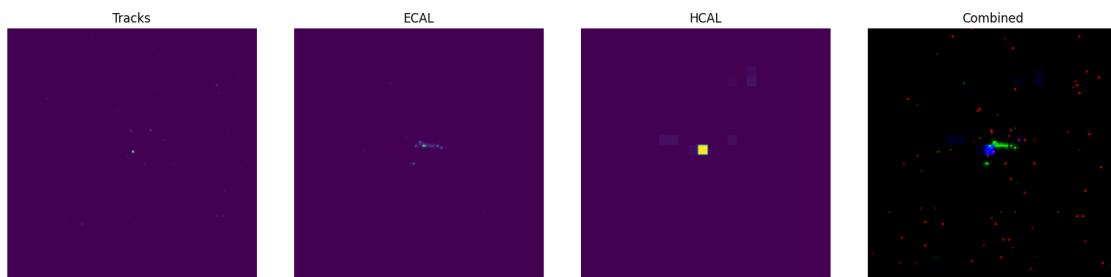


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

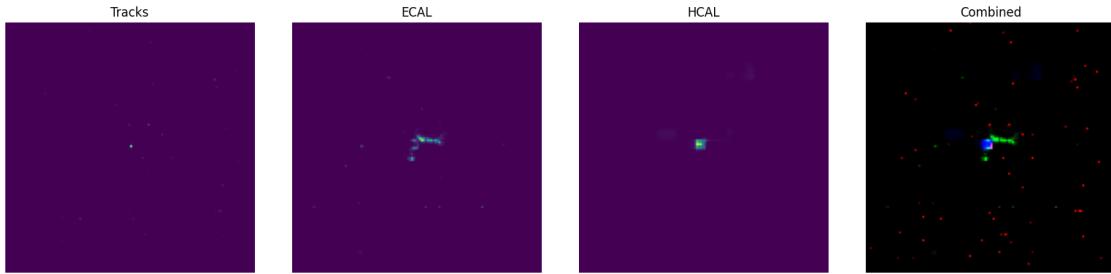


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 121

100% | 625/625 [06:50<00:00, 1.52it/s]

train_loss: 0.00012649261542828754

epoch: 122

100% | 625/625 [06:50<00:00, 1.52it/s]

train_loss: 0.00012642741791205482

epoch: 123

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.0001263643459416926

epoch: 124

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.000126298942649737

epoch: 125

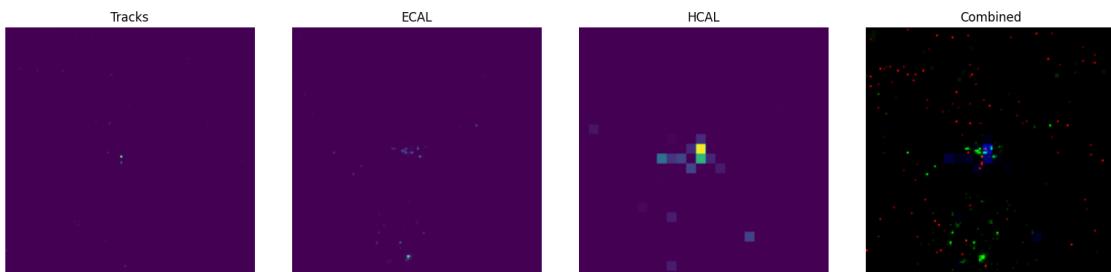
100% | 625/625 [06:51<00:00, 1.52it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

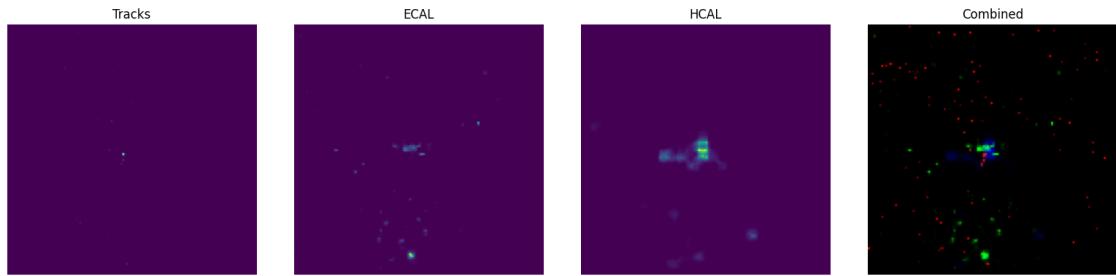
train_loss: 0.00012623457186855376

=====

Sample #0

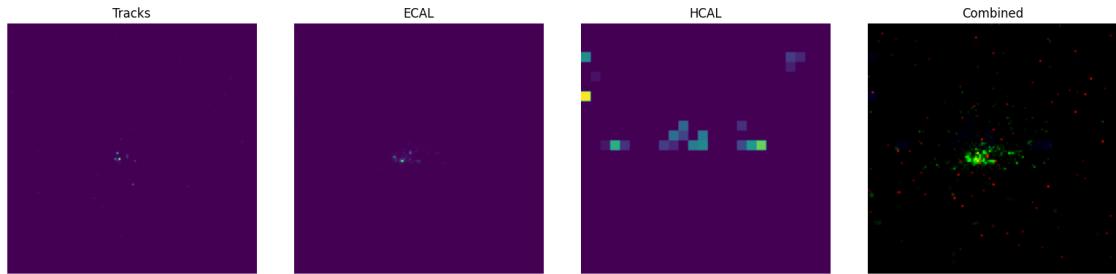


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

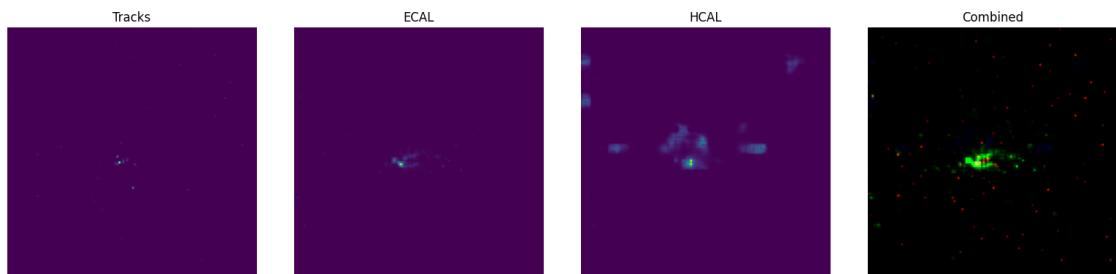


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

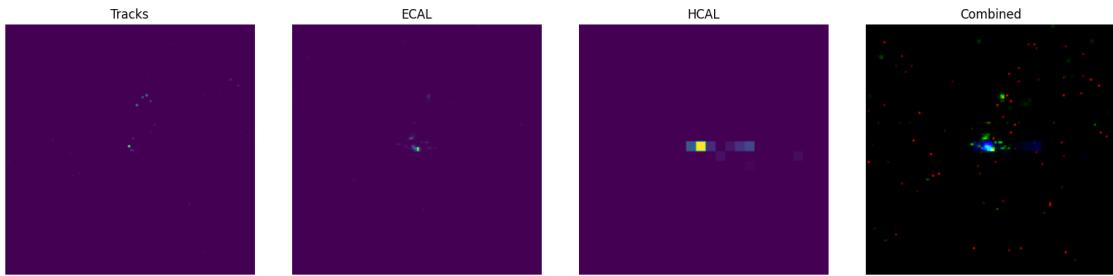


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

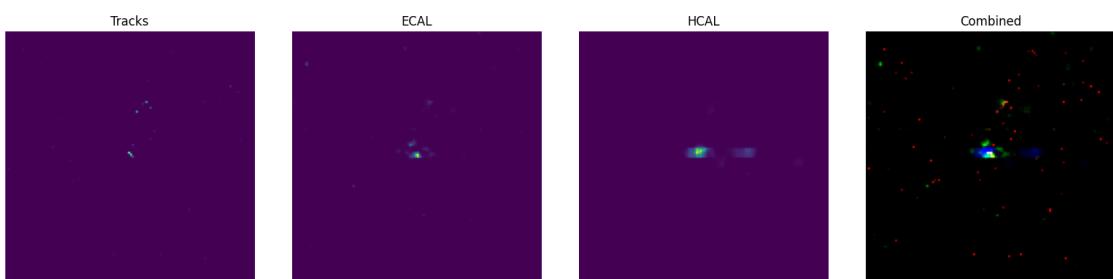


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

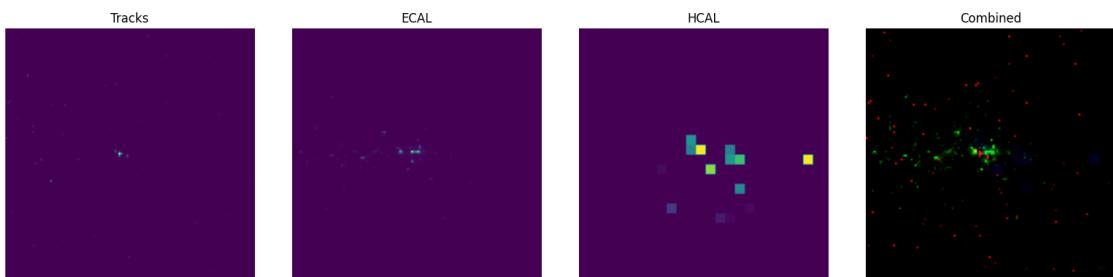


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

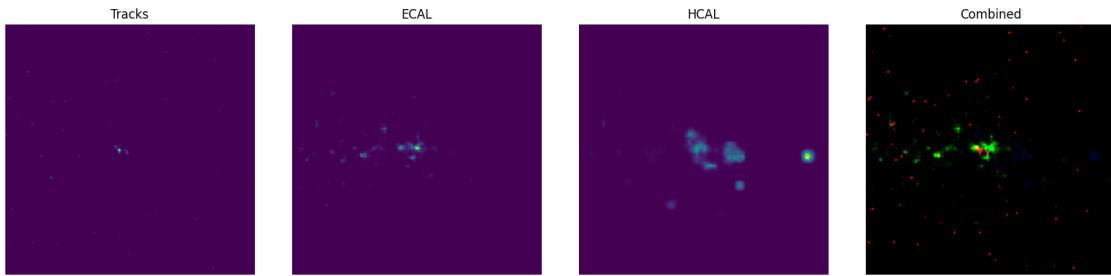


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

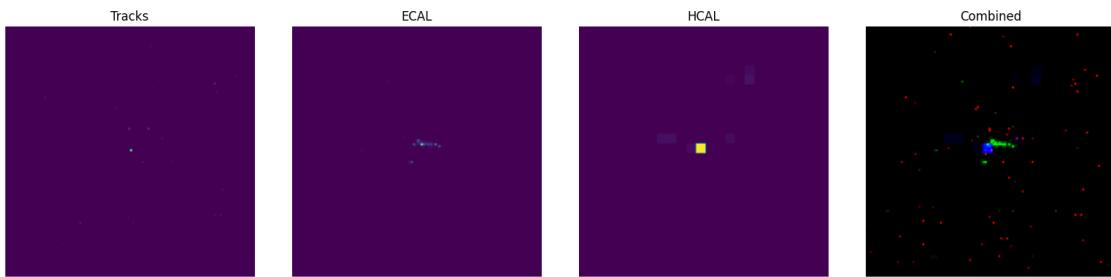


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

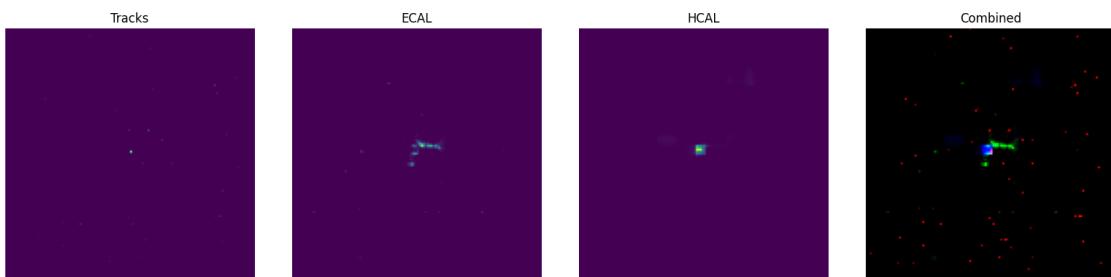


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 126

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012616872432408854

epoch: 127

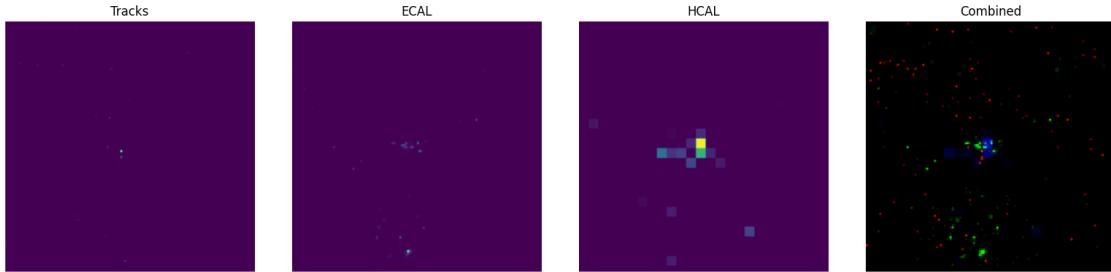
100%| 625/625 [06:53<00:00, 1.51it/s]

```
train_loss: 0.00012611358142457902
epoch: 128
100%|                                | 625/625 [06:51<00:00, 1.52it/s]

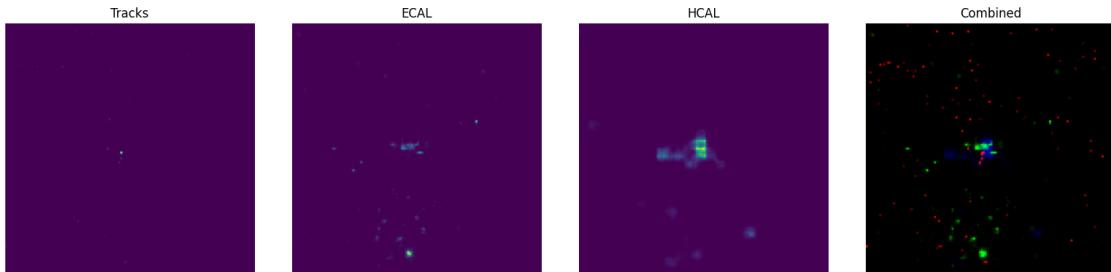
train_loss: 0.00012604673227760942
epoch: 129
100%|                                | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012599216741509737
epoch: 130
100%|                                | 625/625 [06:51<00:00, 1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.00012593590904725715
=====
Sample #0
```

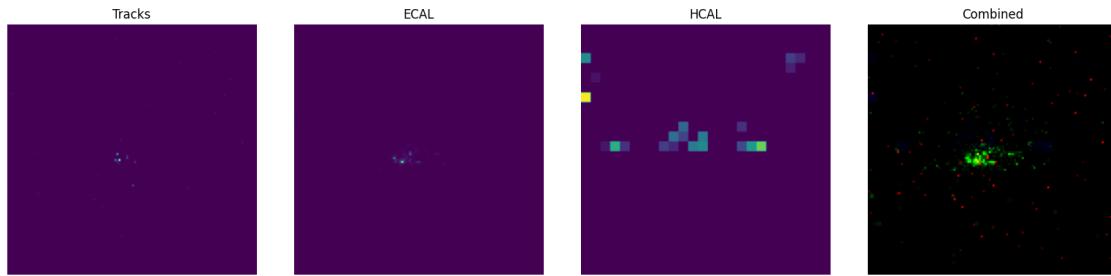


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

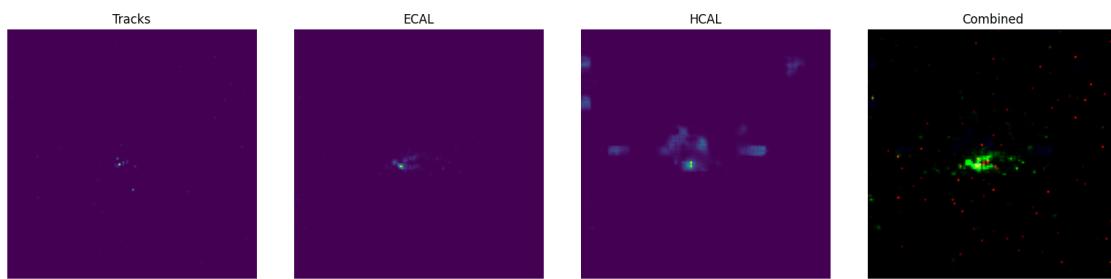


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

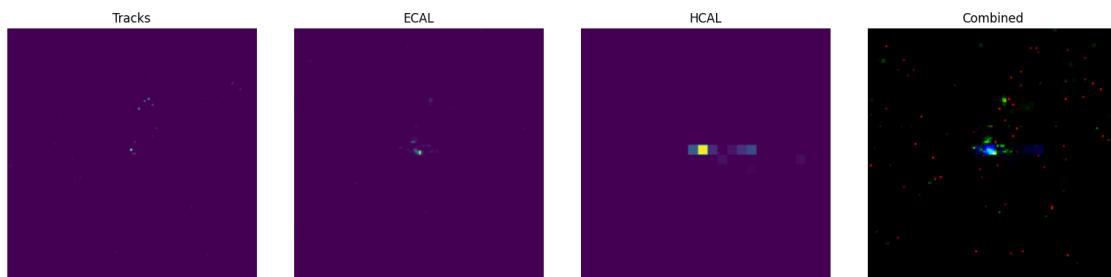


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

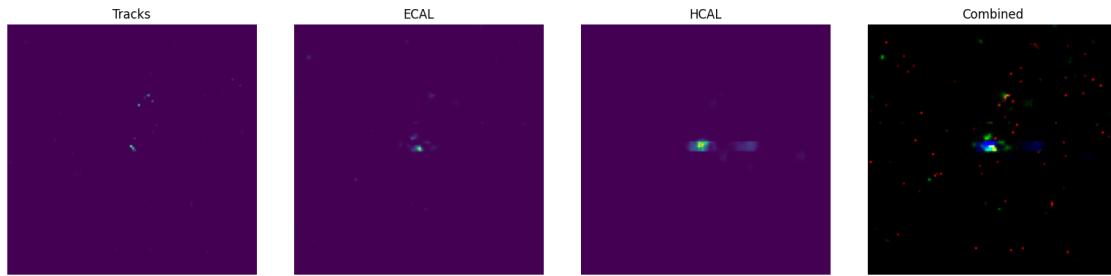


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

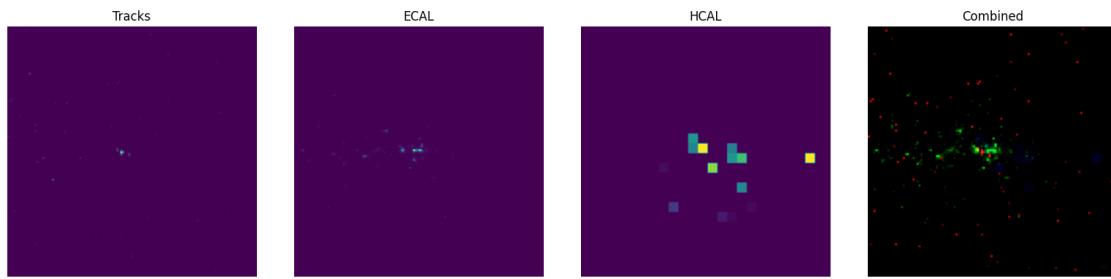


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

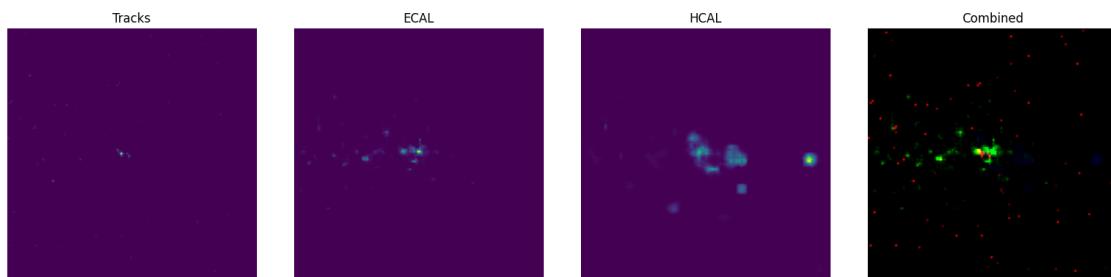


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

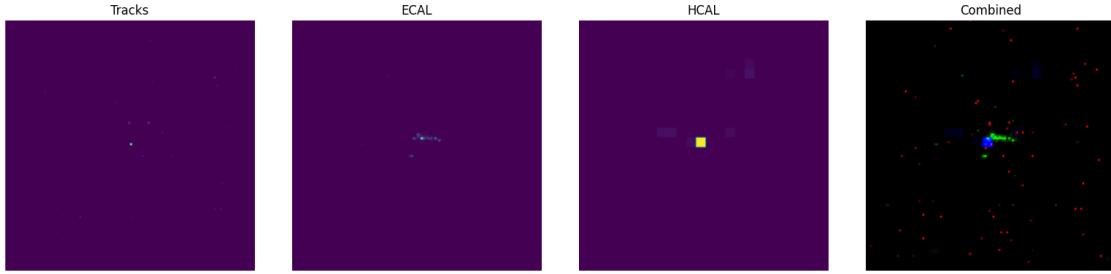


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

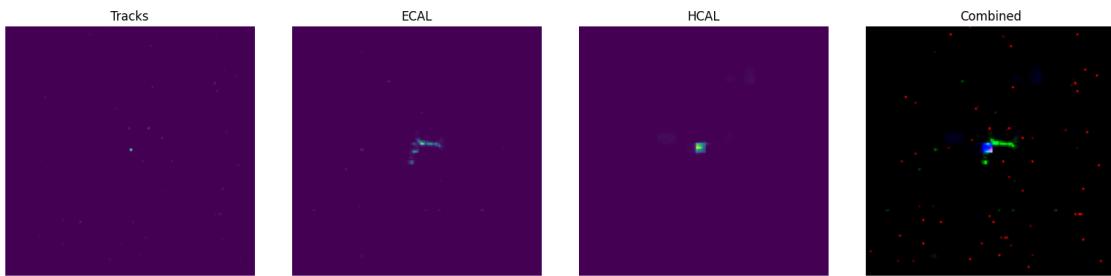


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



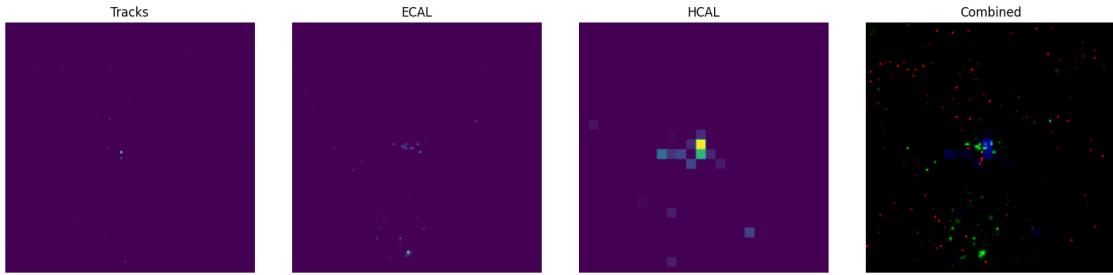
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



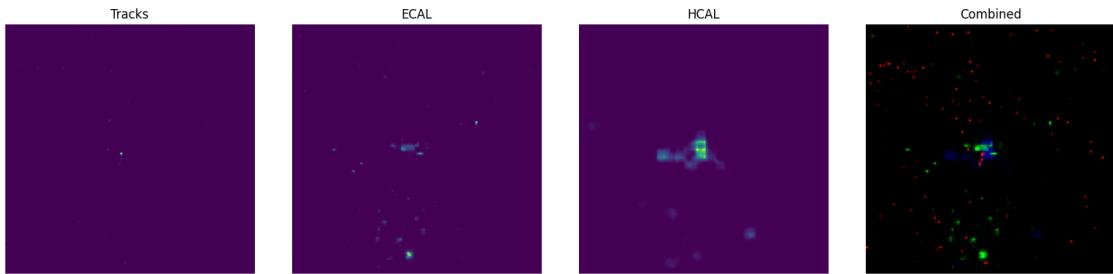
```

epoch: 131
100%|          | 625/625 [06:52<00:00,  1.51it/s]
train_loss: 0.00012588870807085187
epoch: 132
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.00012582919966662302
epoch: 133
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.00012578712648246437
epoch: 134
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.00012572794338921084
epoch: 135
100%|          | 625/625 [06:51<00:00,  1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.0001256884815520607
=====
```

Sample #0

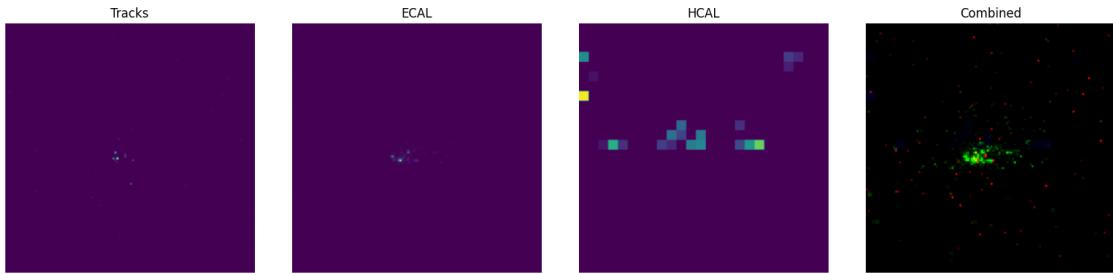


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

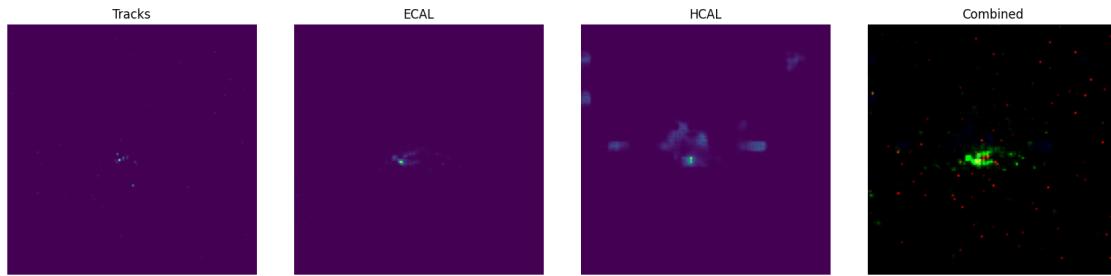


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

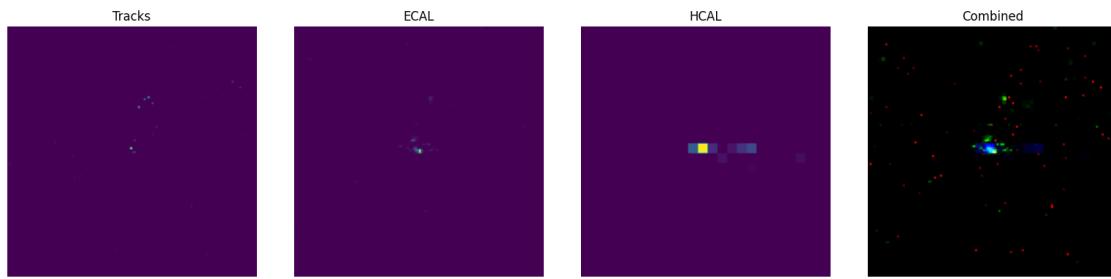


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

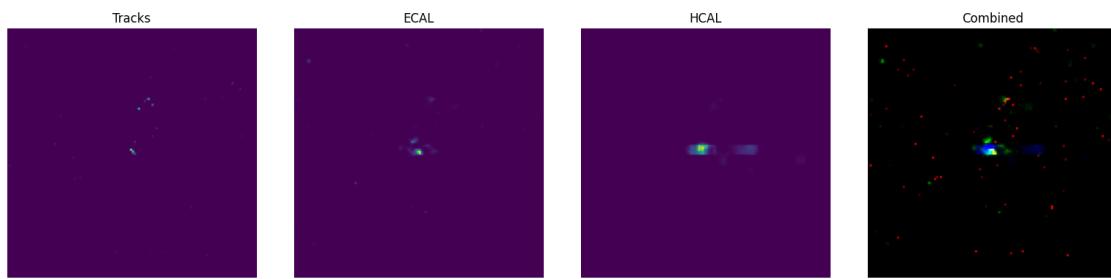


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

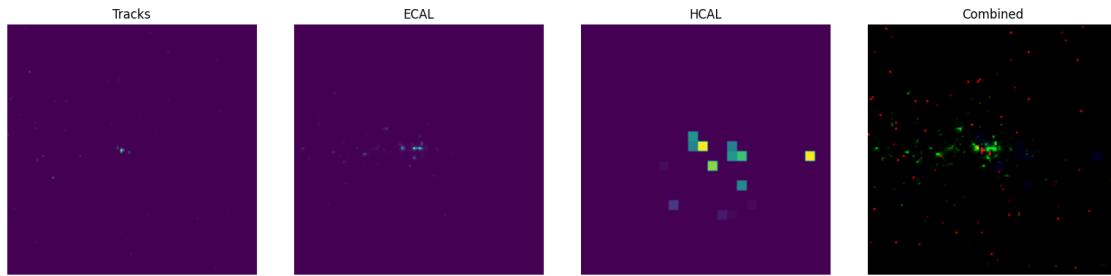


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

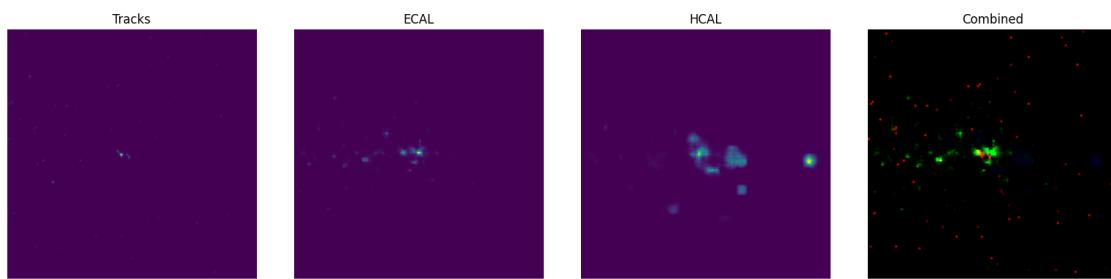


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

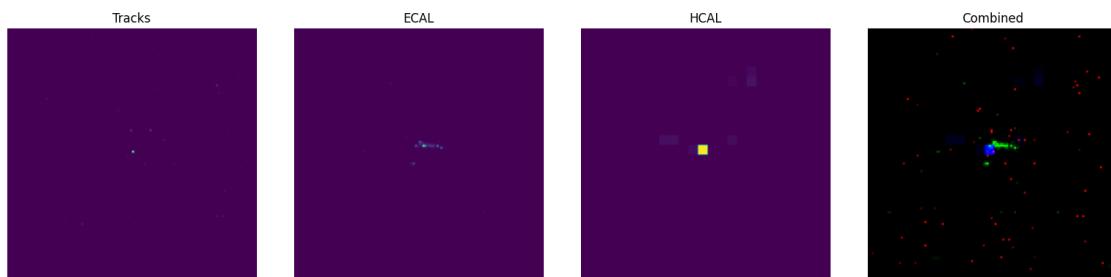


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

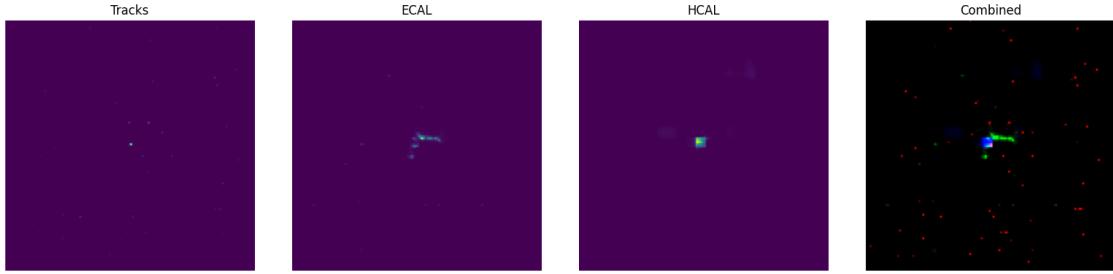


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



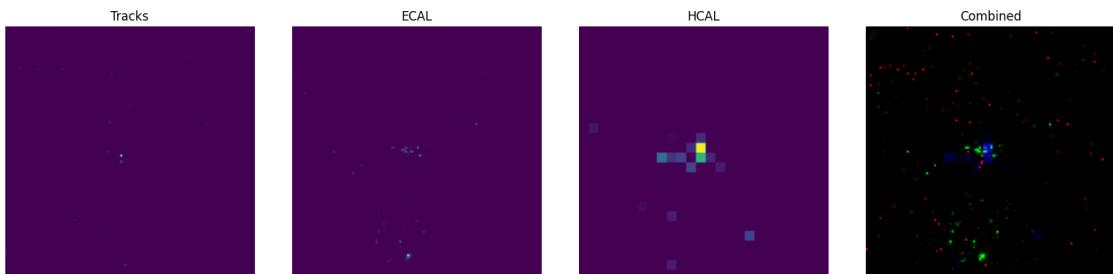
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



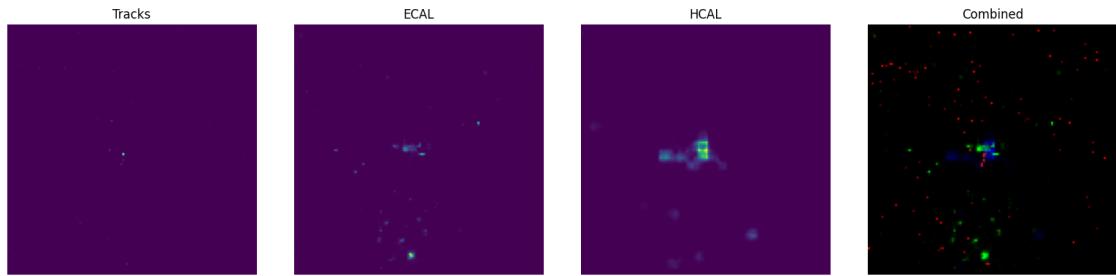
```

epoch: 136
100%|          | 625/625 [06:52<00:00,  1.52it/s]
train_loss: 0.00012564044079044833
epoch: 137
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.00012559484964003785
epoch: 138
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.0001255419890047051
epoch: 139
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.00012550686995964499
epoch: 140
100%|          | 625/625 [06:51<00:00,  1.52it/s]
train_loss: 0.0001254565436509438
=====
Sample #0
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

```

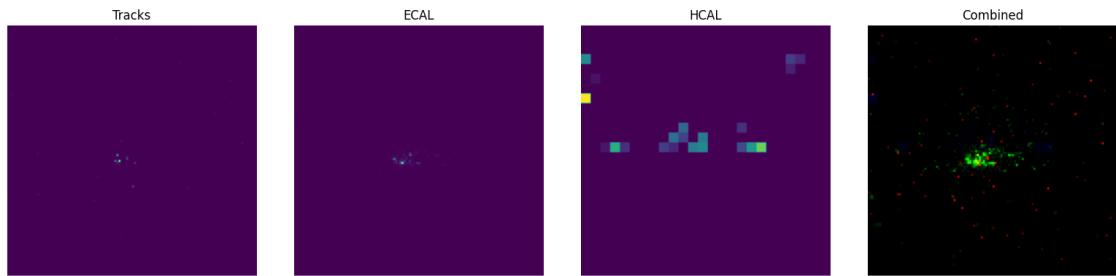


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

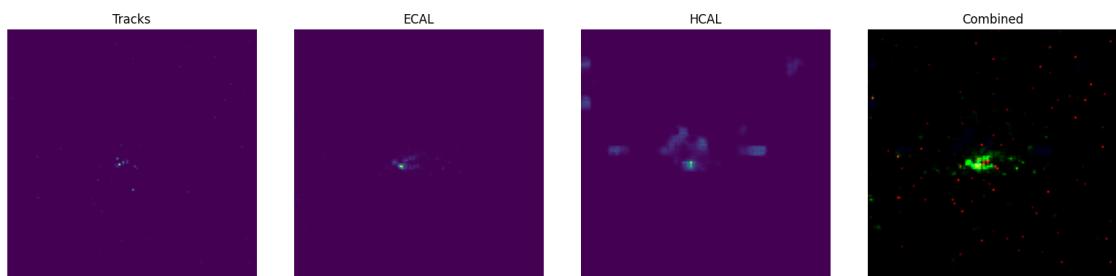


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

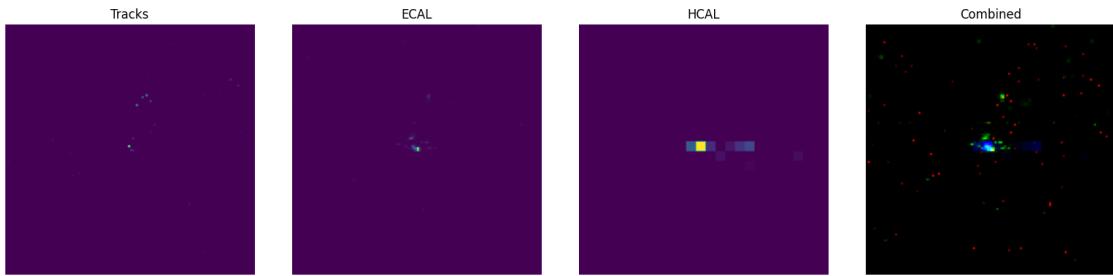


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

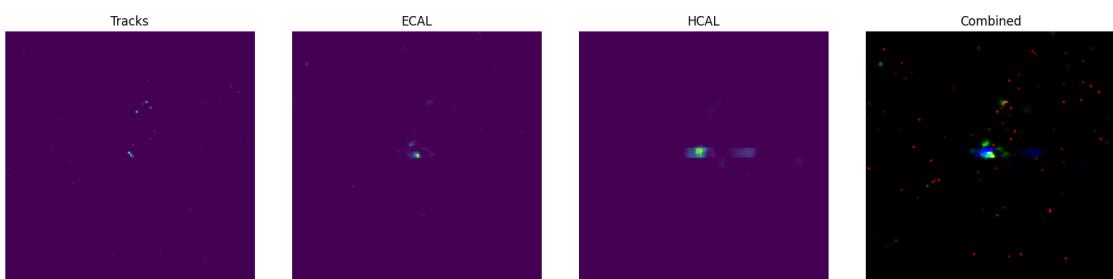


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

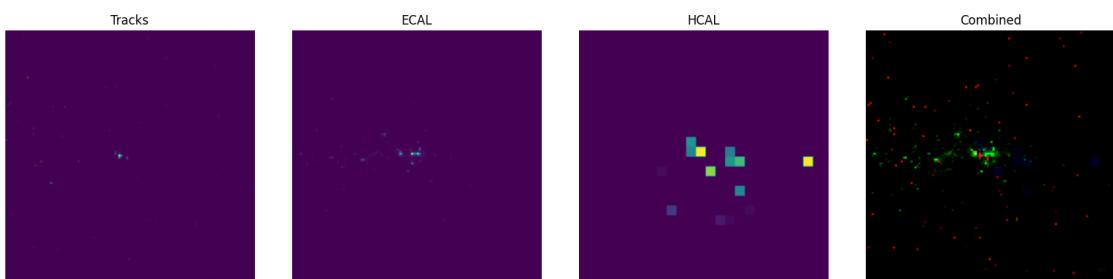


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

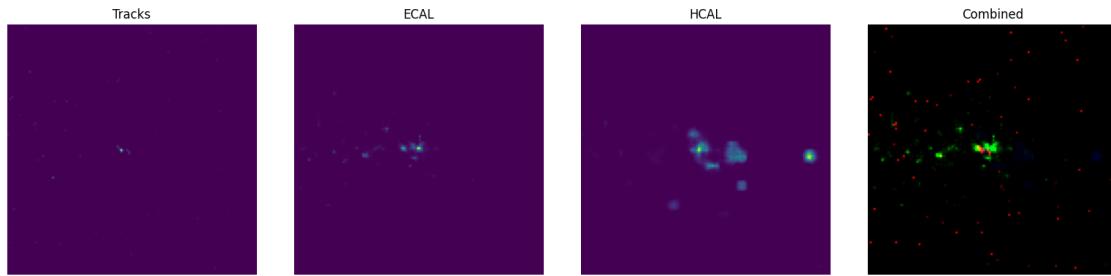


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

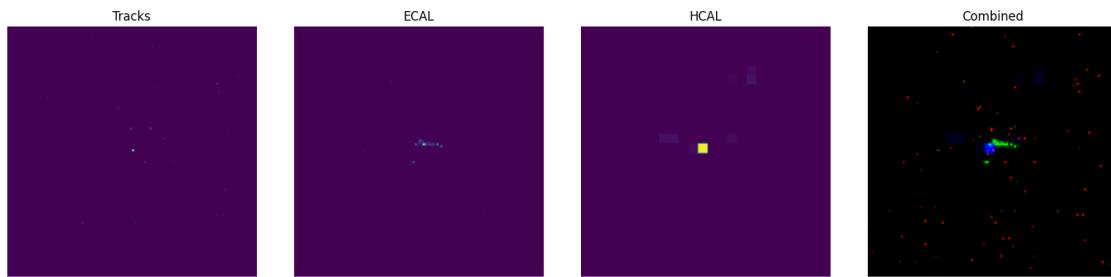


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

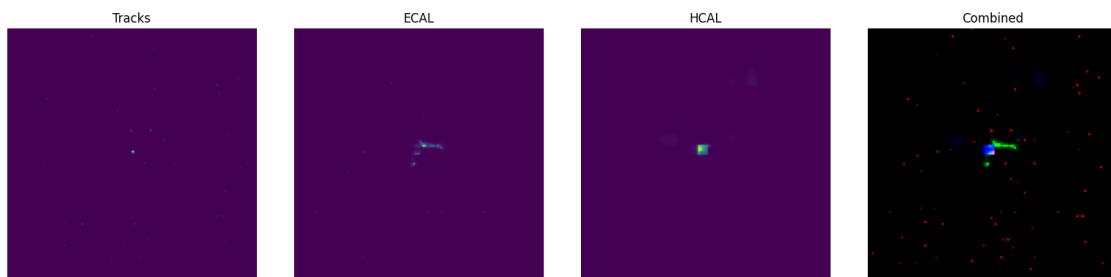


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 141

100%| 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.00012541525962296874

epoch: 142

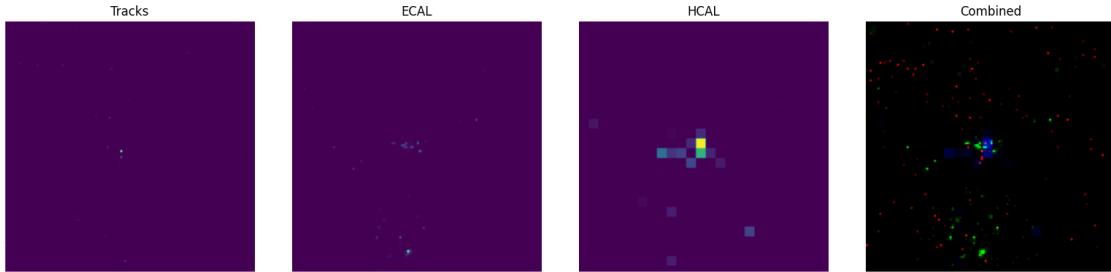
100%| 625/625 [06:52<00:00, 1.52it/s]

```
train_loss: 0.00012537644456606358
epoch: 143
100%|                                | 625/625 [06:52<00:00, 1.52it/s]

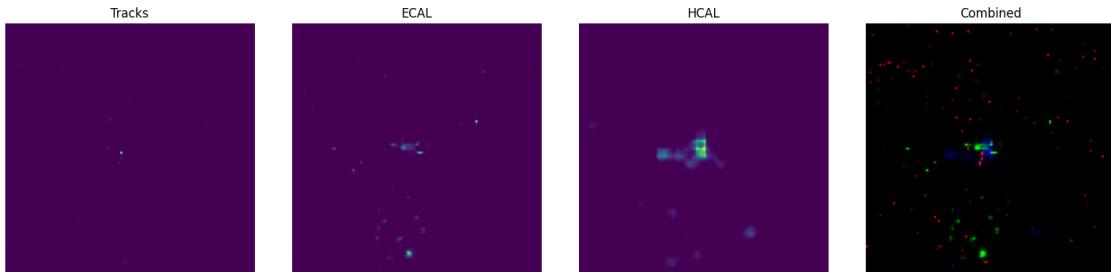
train_loss: 0.00012533038412220775
epoch: 144
100%|                                | 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.00012529567005112766
epoch: 145
100%|                                | 625/625 [06:51<00:00, 1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001252520273323171
=====
Sample #0
```

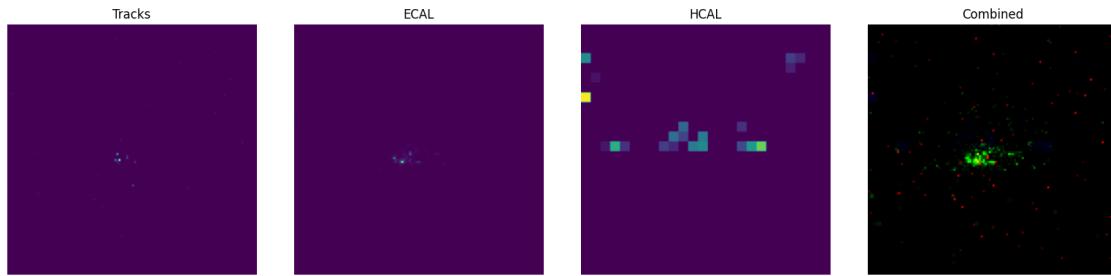


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

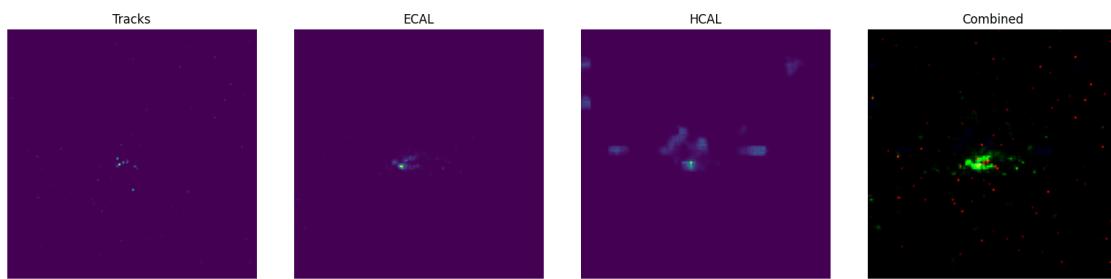


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

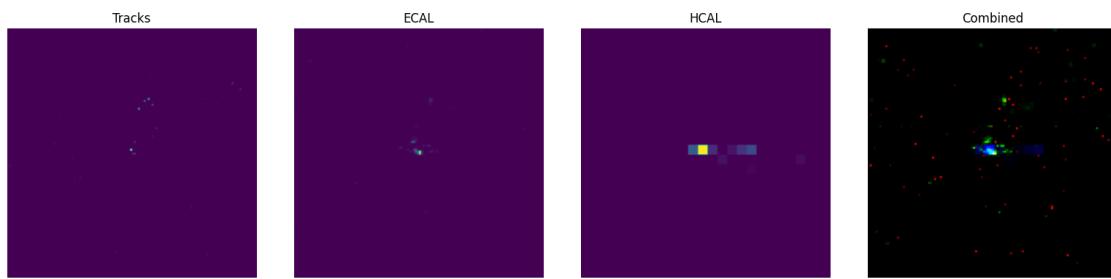


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

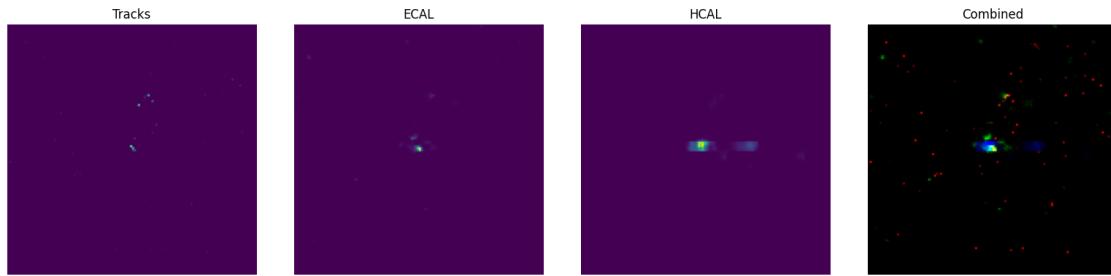


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

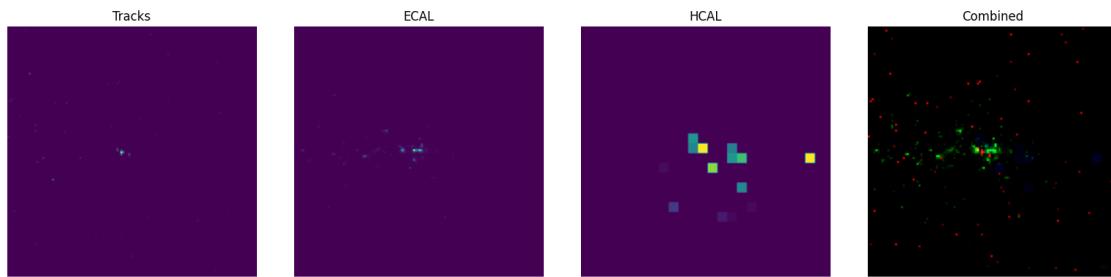


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

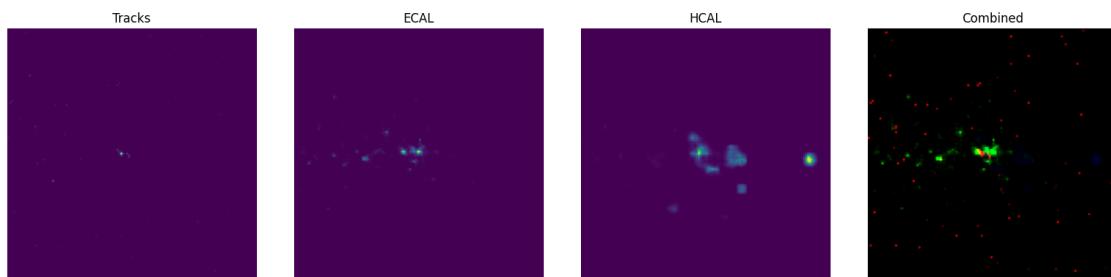


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

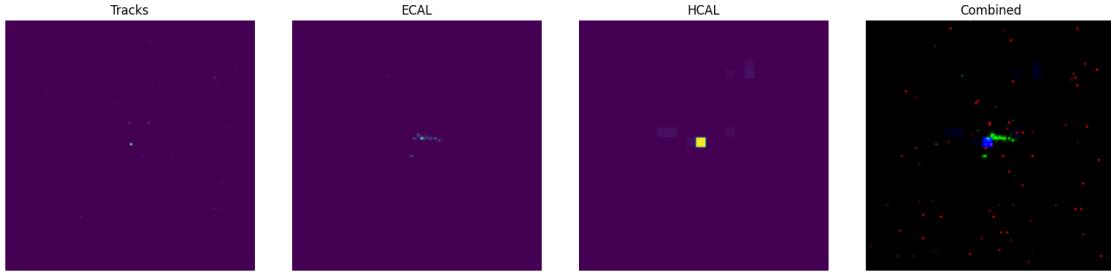


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

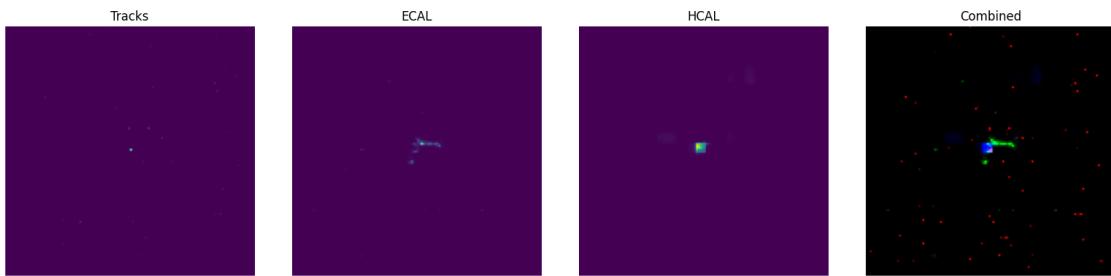


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 146

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012521007396280764

epoch: 147

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012517337242607028

epoch: 148

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.0001251317460904829

epoch: 149

100% | 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.0001250940791913308

epoch: 150

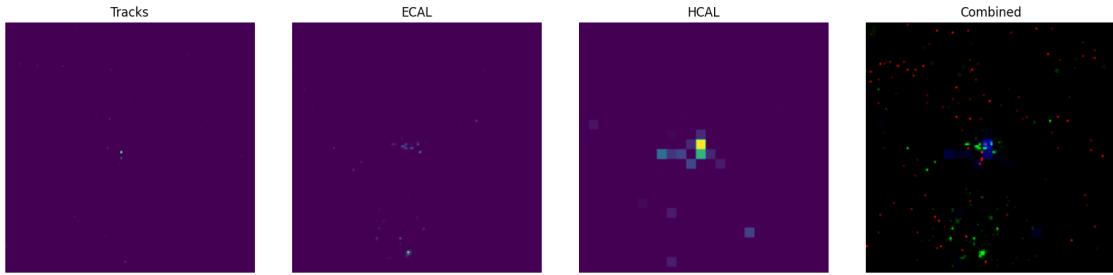
100% | 625/625 [06:51<00:00, 1.52it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

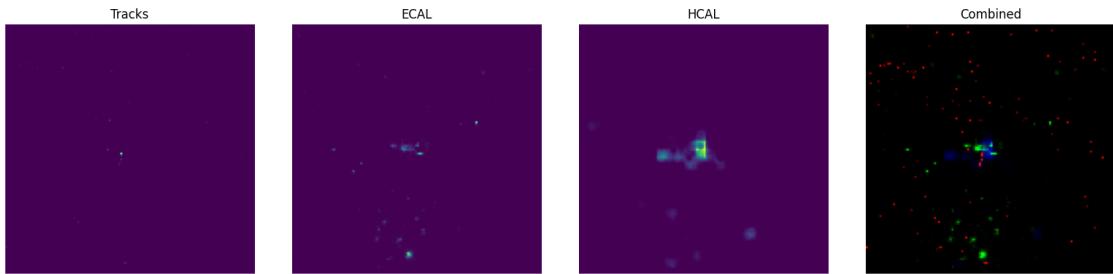
train_loss: 0.00012505916055524722

=====

Sample #0

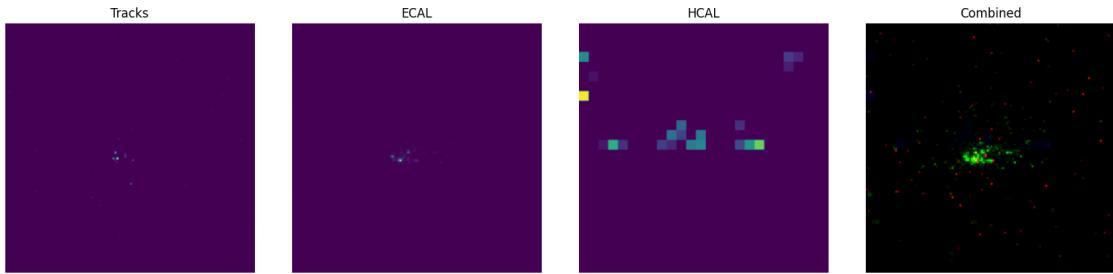


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

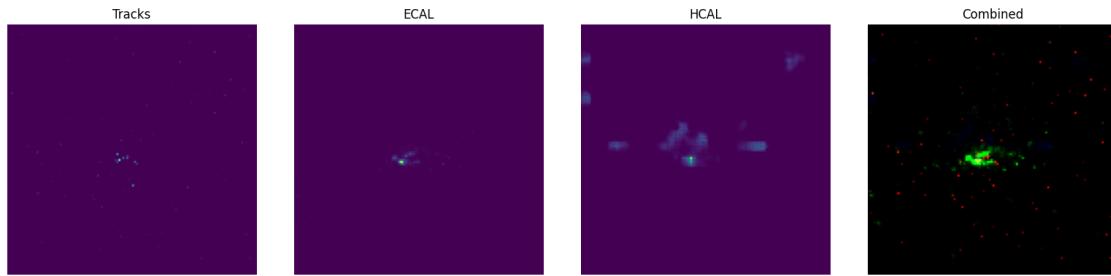


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

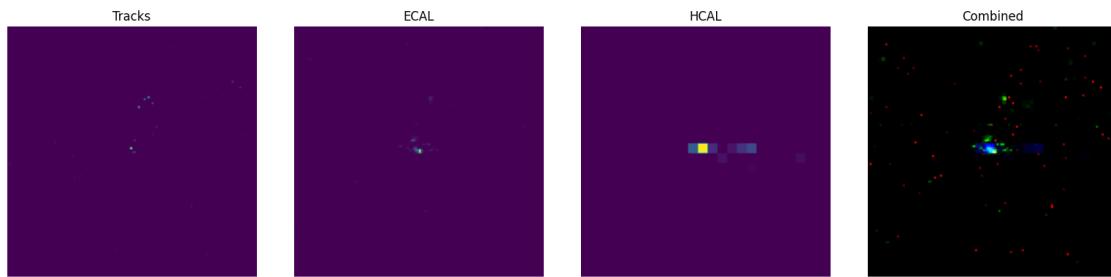


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

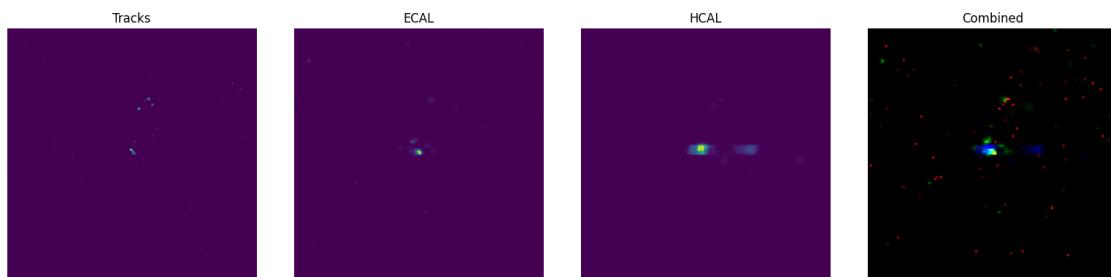


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

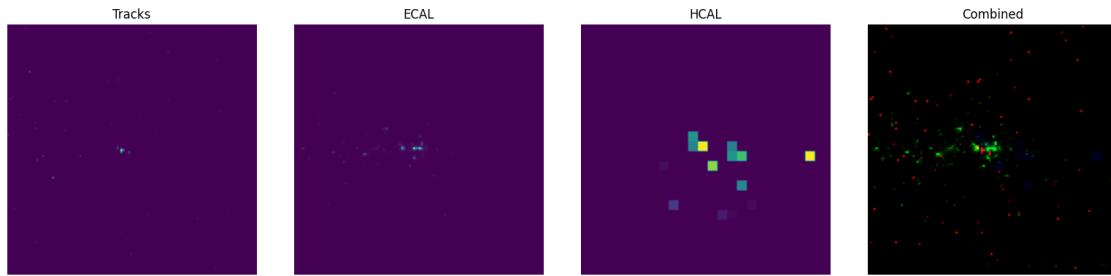


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

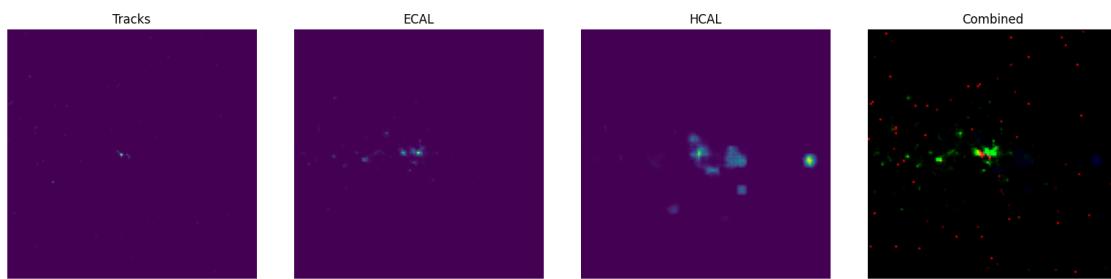


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

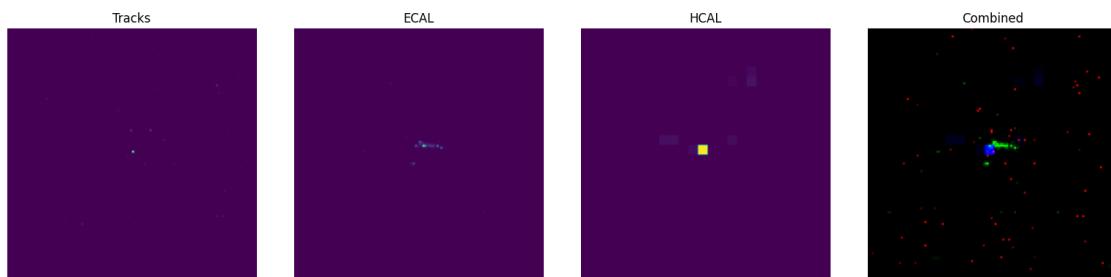


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

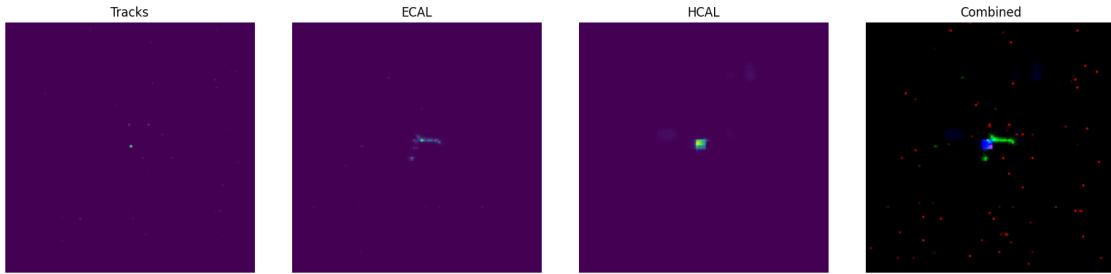


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 151

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.0001250208739307709

epoch: 152

100%| 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.0001249881497467868

epoch: 153

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012494523805798964

epoch: 154

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012491793398512527

epoch: 155

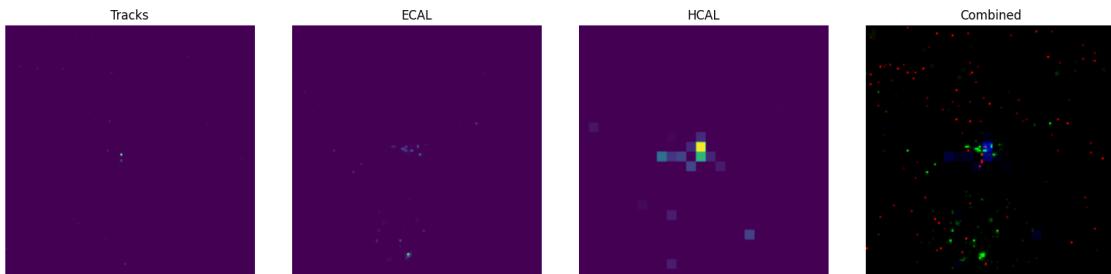
100%| 625/625 [06:51<00:00, 1.52it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

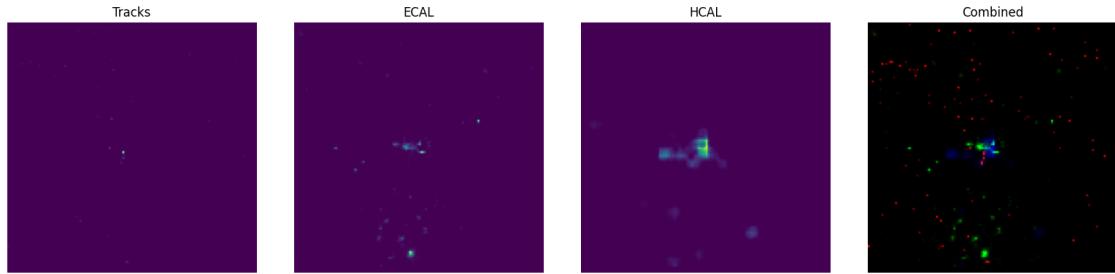
train_loss: 0.00012487932052463293

=====

Sample #0

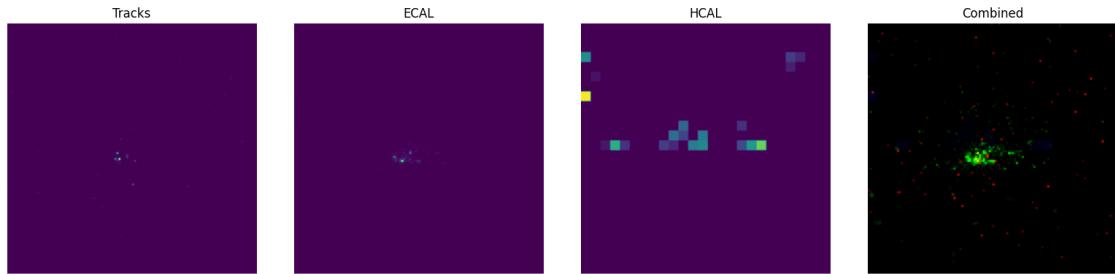


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

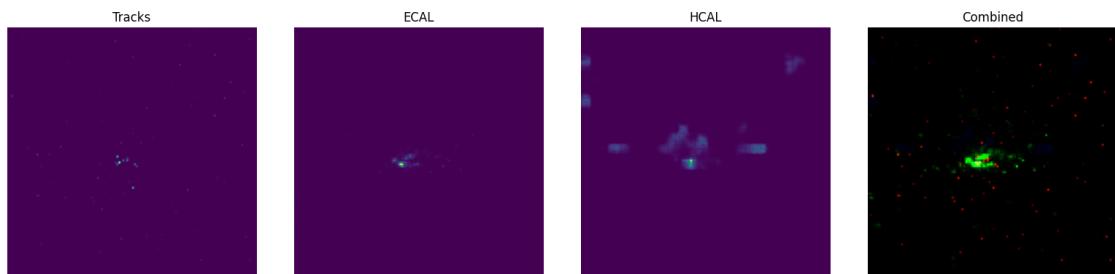


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

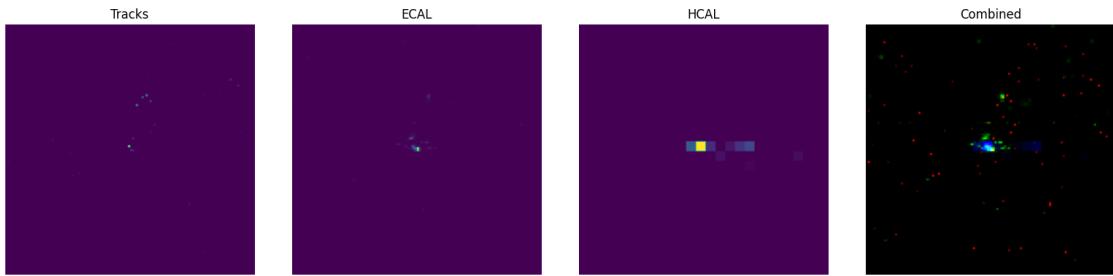


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

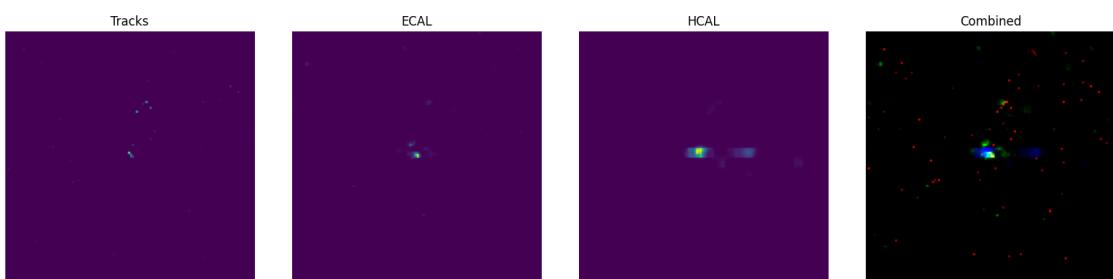


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

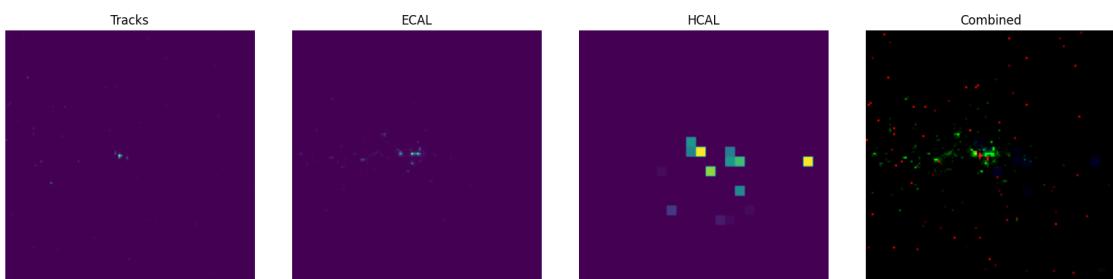


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

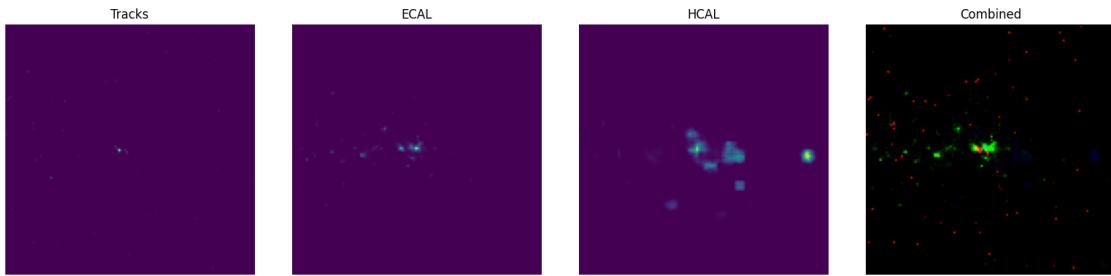


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

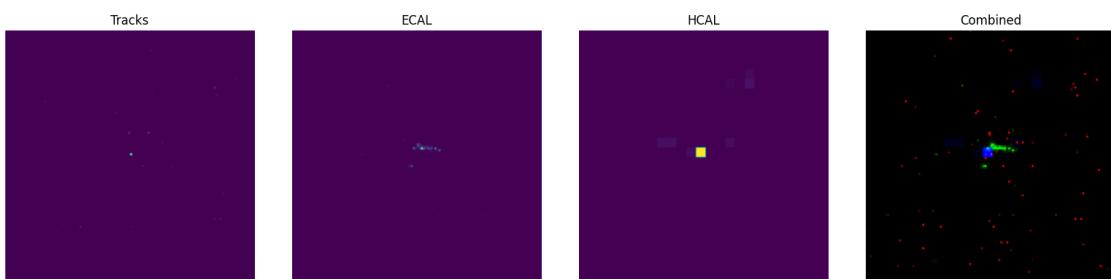


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

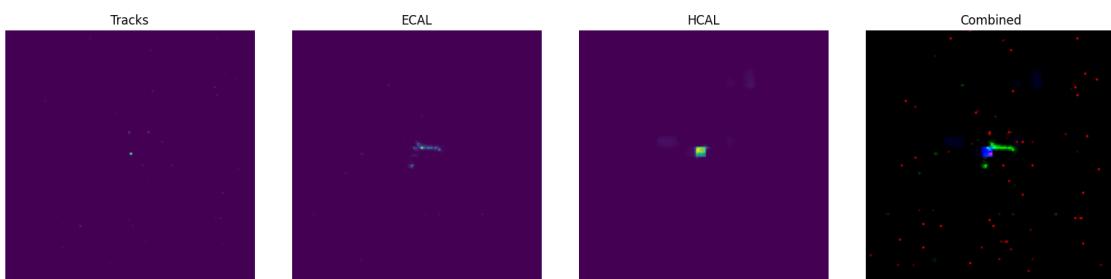


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 156

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.0001248478861991316

epoch: 157

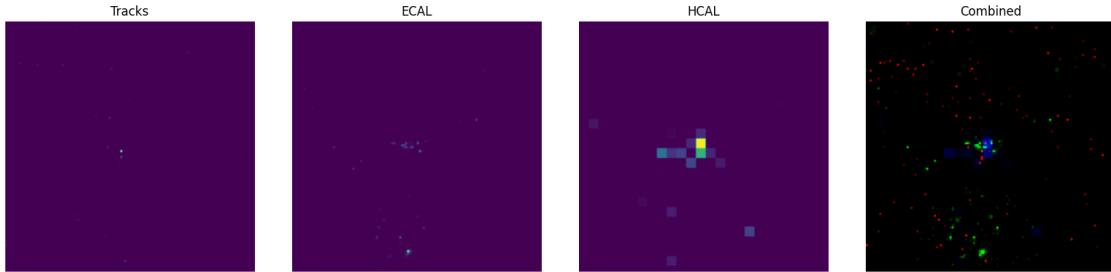
100%| 625/625 [06:51<00:00, 1.52it/s]

```
train_loss: 0.00012481879008701072
epoch: 158
100%|                                     | 625/625 [06:52<00:00, 1.51it/s]

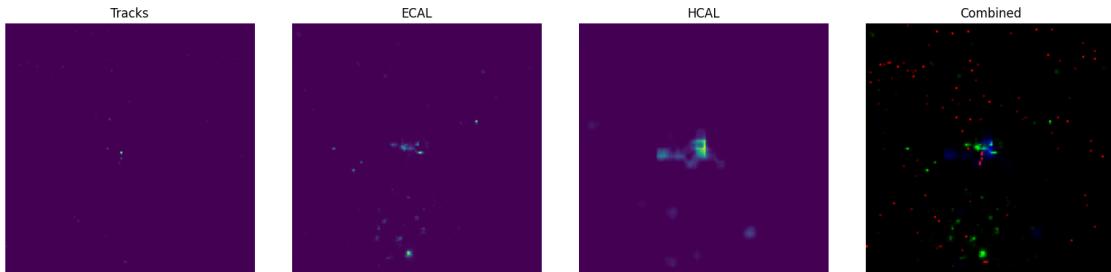
train_loss: 0.00012478344693081454
epoch: 159
100%|                                     | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012475666905520483
epoch: 160
100%|                                     | 625/625 [06:51<00:00, 1.52it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001247206675936468
=====
Sample #0
```

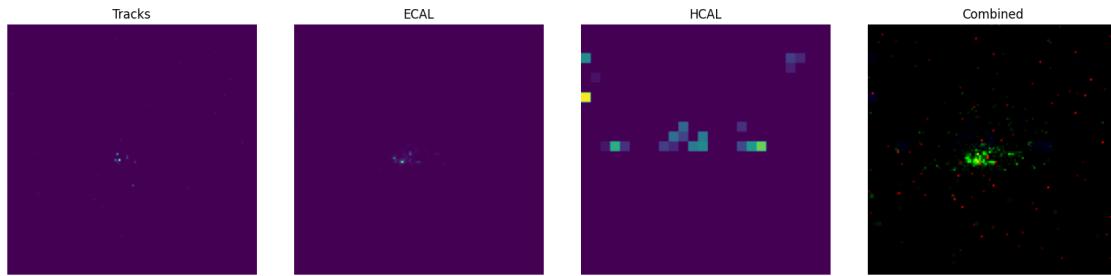


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

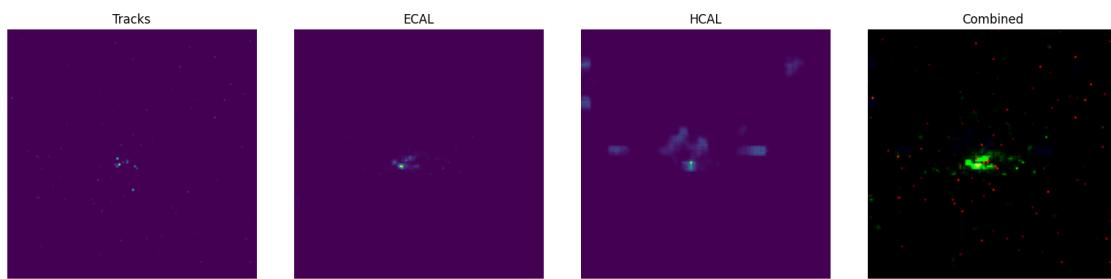


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

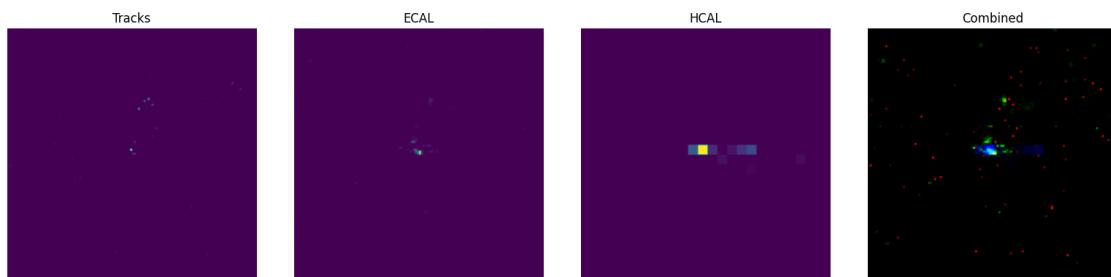


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

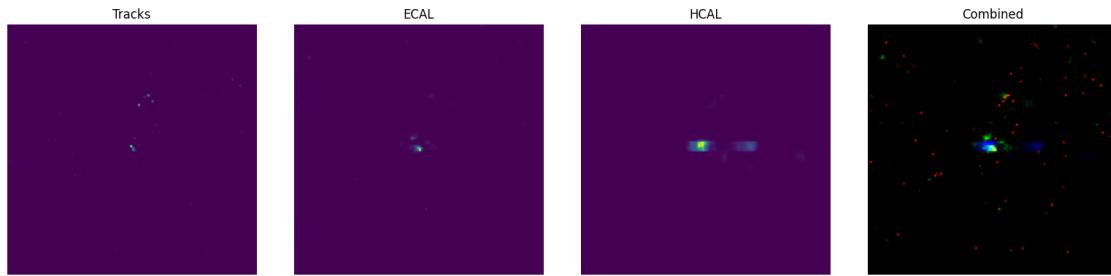


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

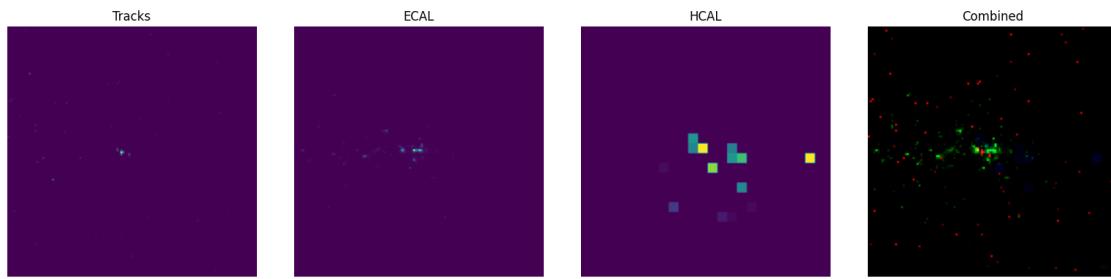


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

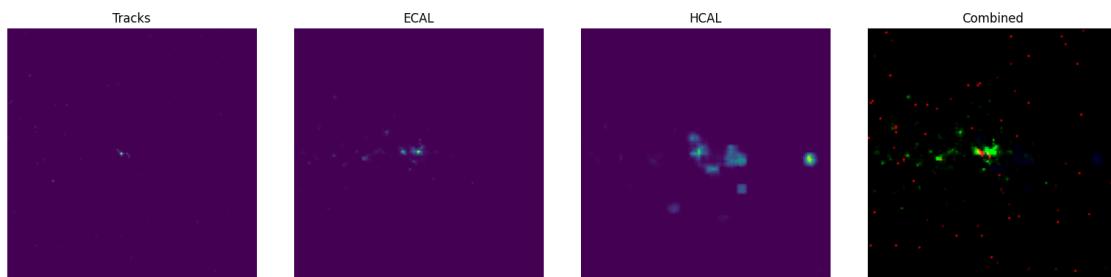


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

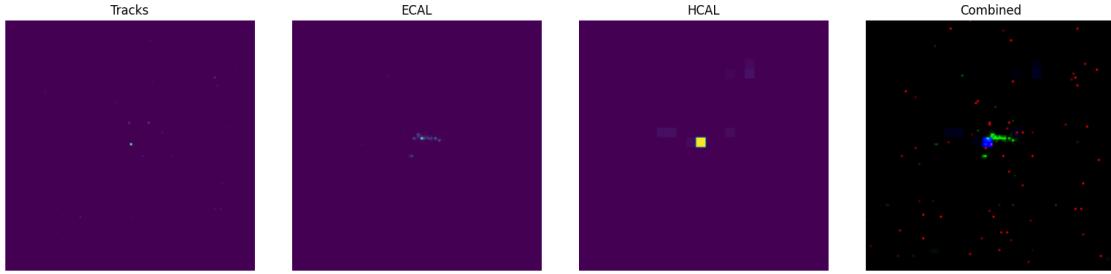


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

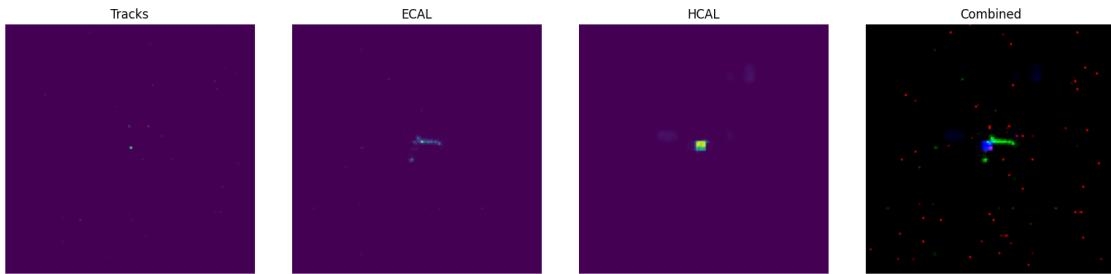


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 161

100%| 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012469293152680622

epoch: 162

100%| 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.00012466674285242335

epoch: 163

100%| 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012464268961921335

epoch: 164

100%| 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.00012461135607445614

epoch: 165

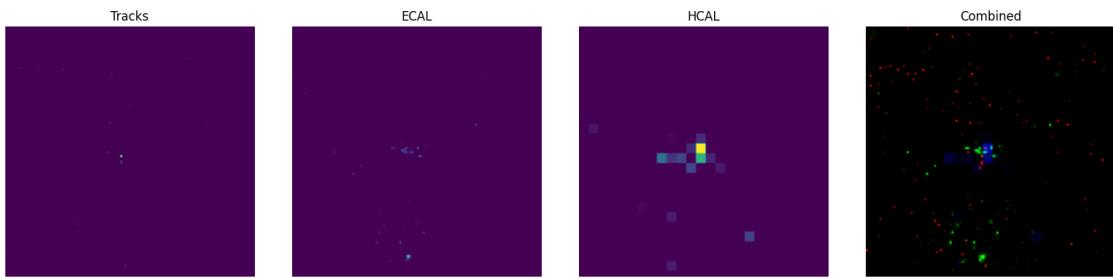
100%| 625/625 [06:53<00:00, 1.51it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

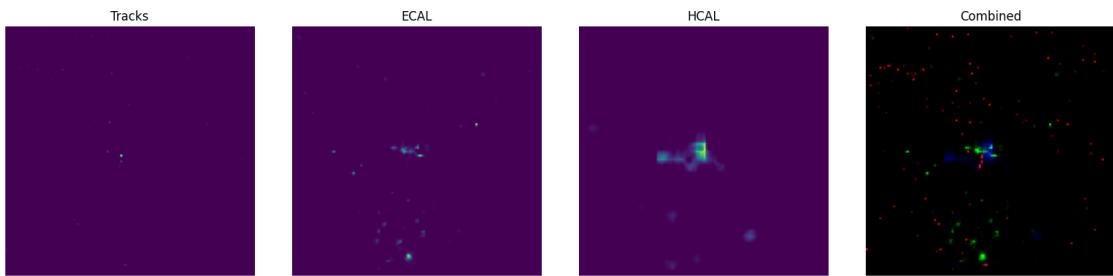
train_loss: 0.0001245916523388587

=====

Sample #0

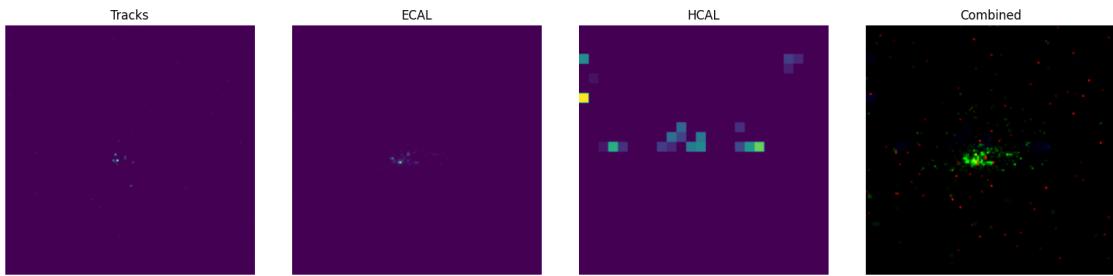


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

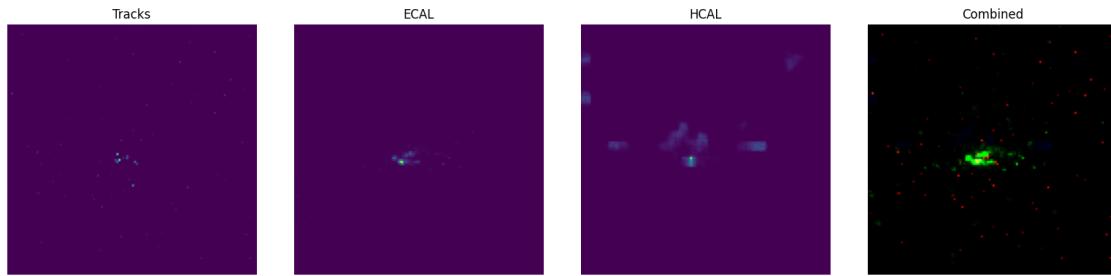


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

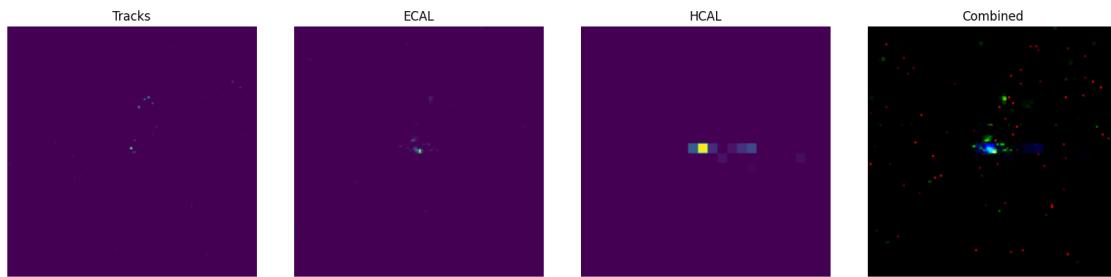


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

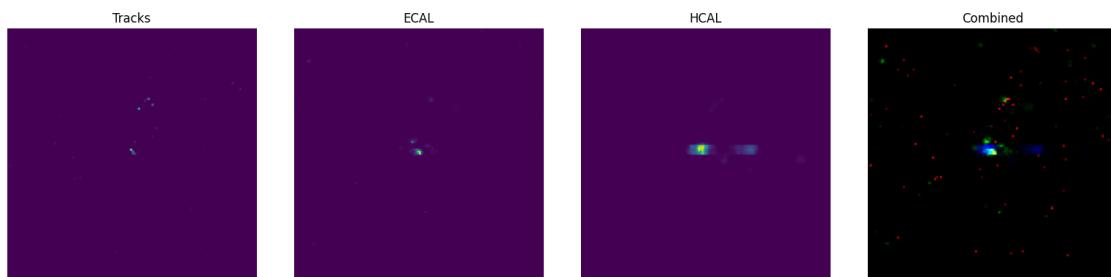


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

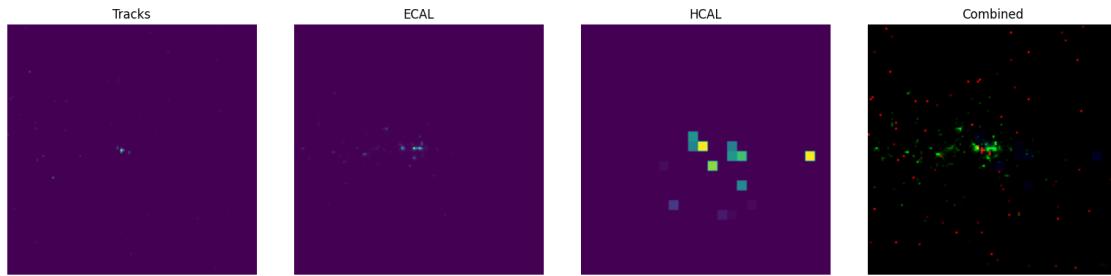


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

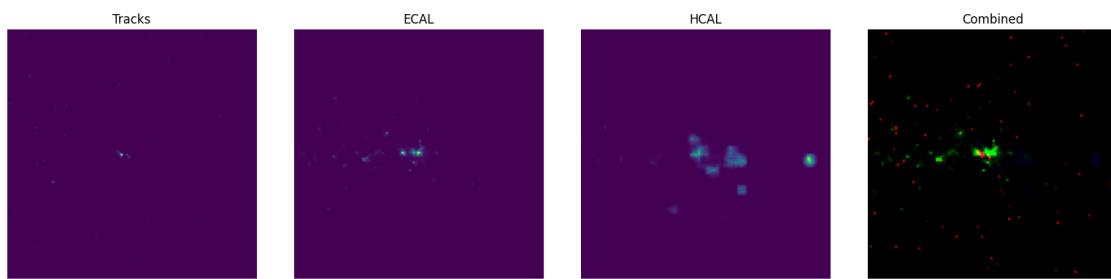


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

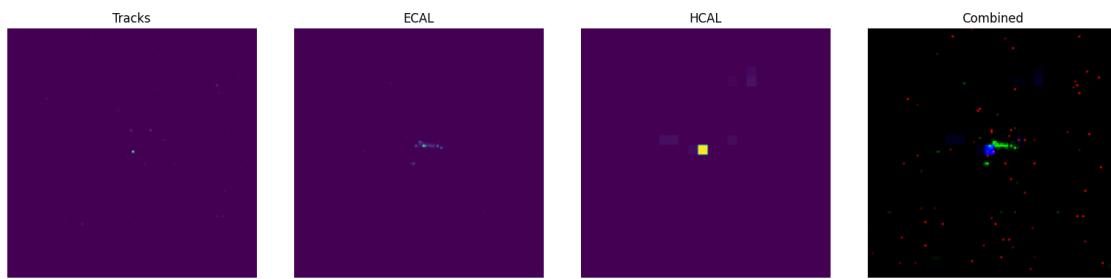


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

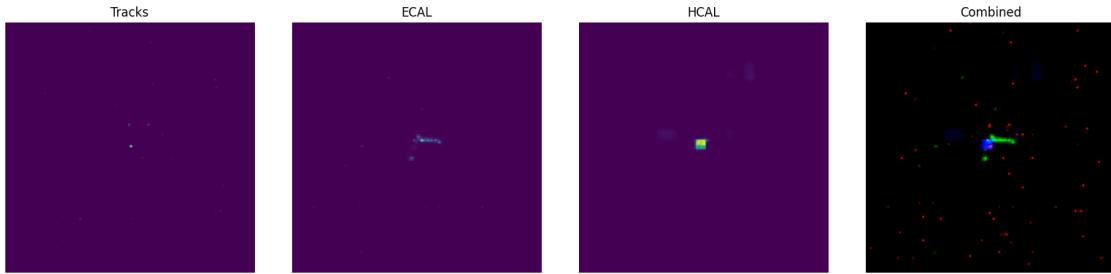


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 166

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.0001245621043839492

epoch: 167

100% | 625/625 [06:51<00:00, 1.52it/s]

train_loss: 0.00012453141493024304

epoch: 168

100% | 625/625 [06:52<00:00, 1.52it/s]

train_loss: 0.00012451400067657232

epoch: 169

100% | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.0001244878826662898

epoch: 170

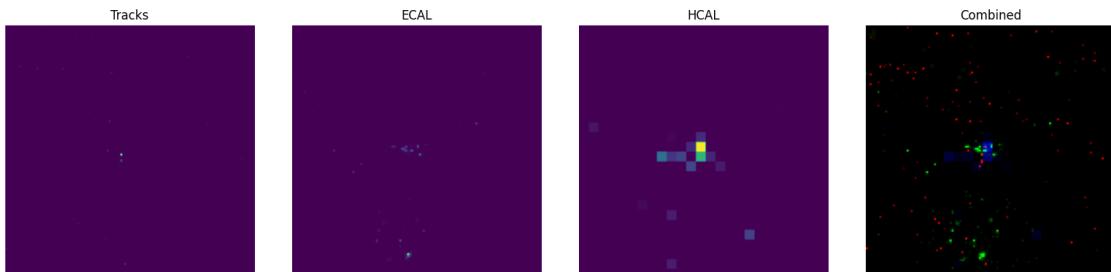
100% | 625/625 [06:53<00:00, 1.51it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

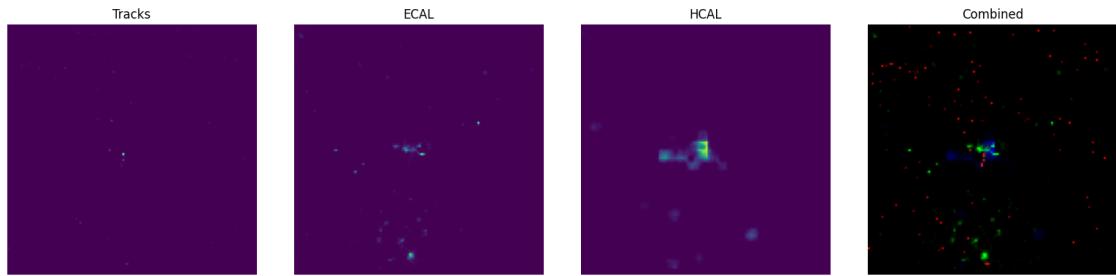
train_loss: 0.0001244605340878479

=====

Sample #0

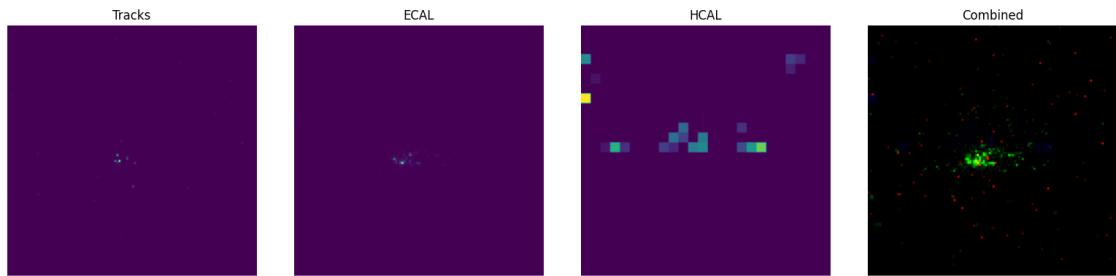


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

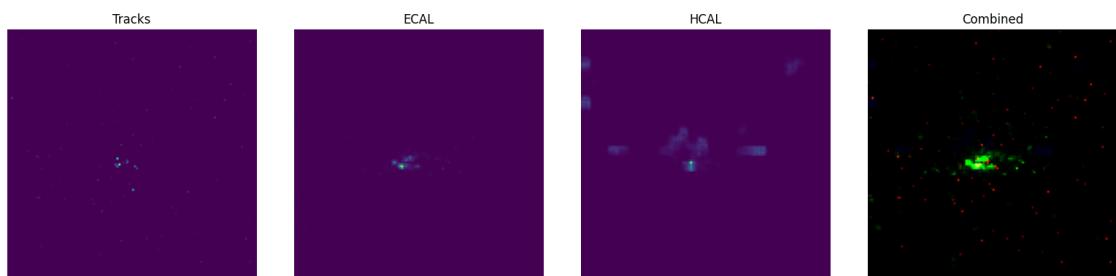


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

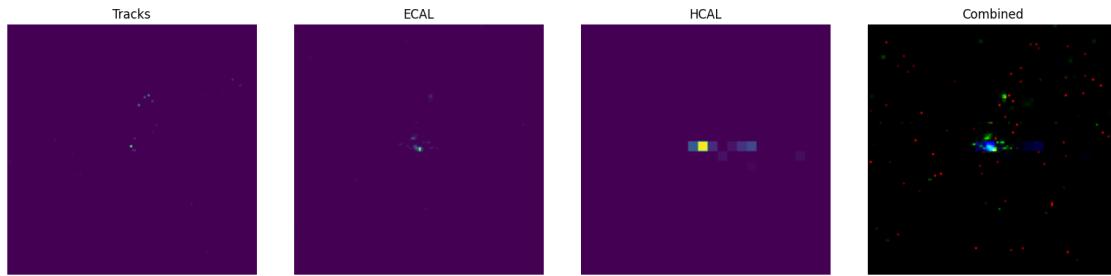


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

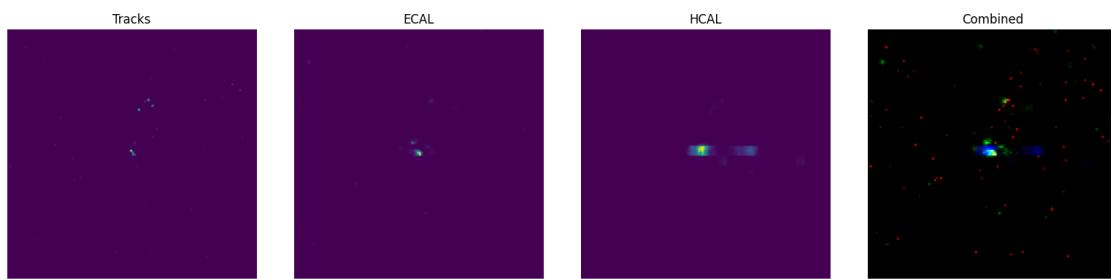


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

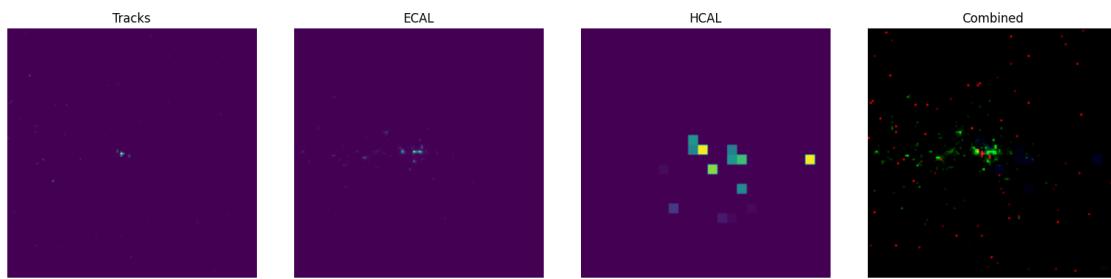


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

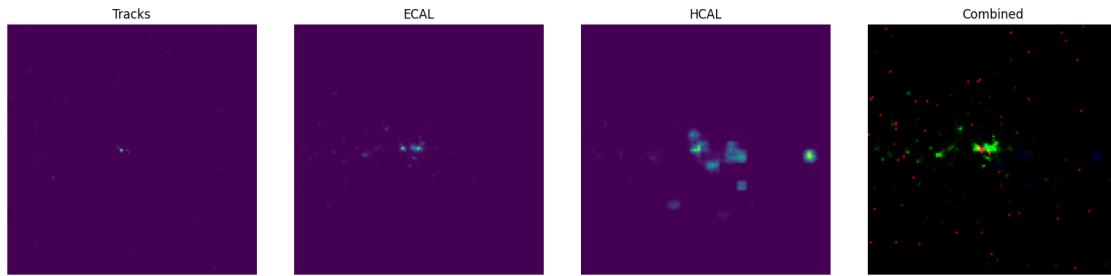


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

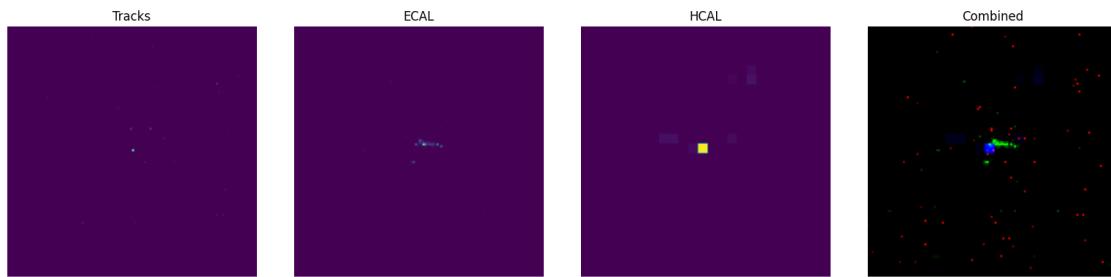


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

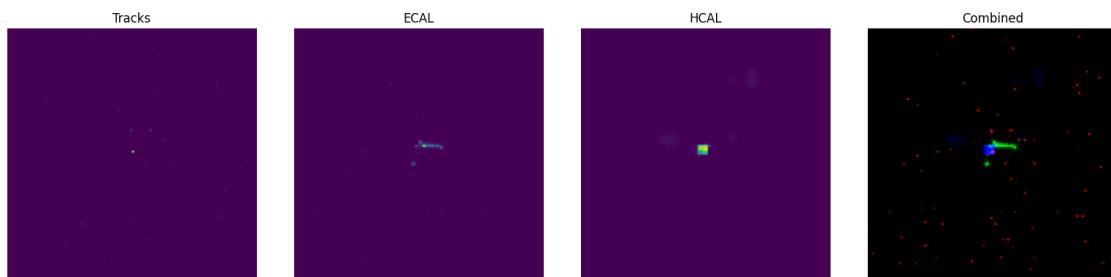


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 171

100%| 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.0001244365964550525

epoch: 172

100%| 625/625 [06:52<00:00, 1.51it/s]

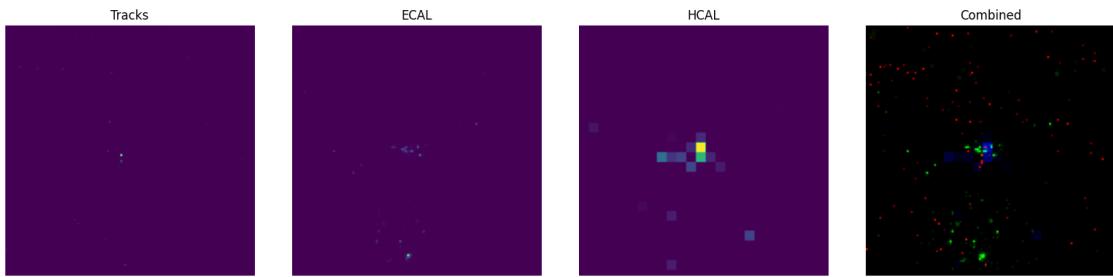
```
train_loss: 0.0001244170682388358
epoch: 173
100%|                                | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.00012439208715222776
epoch: 174
100%|                                | 625/625 [06:52<00:00, 1.52it/s]

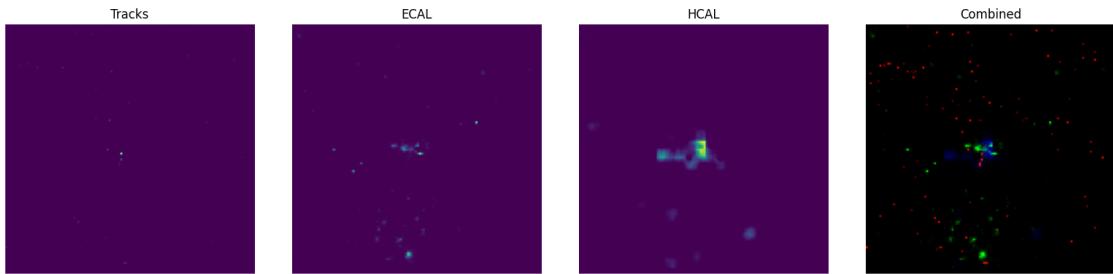
train_loss: 0.00012436272327322512
epoch: 175
100%|                                | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.00012434787198435516
=====
Sample #0
```

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

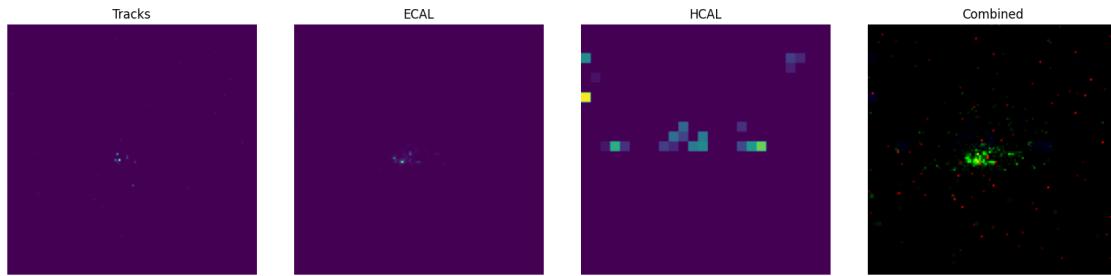


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

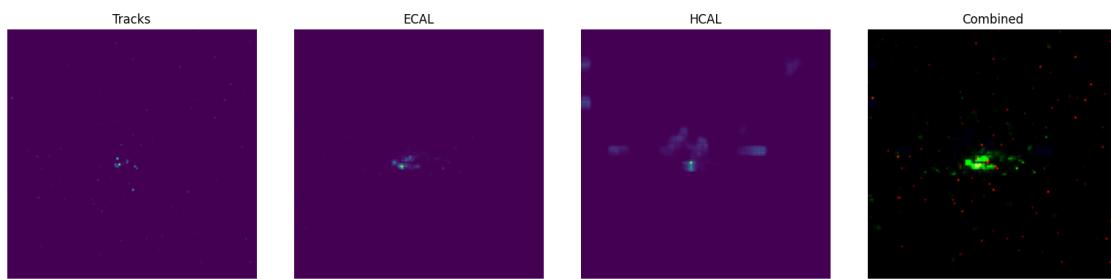


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

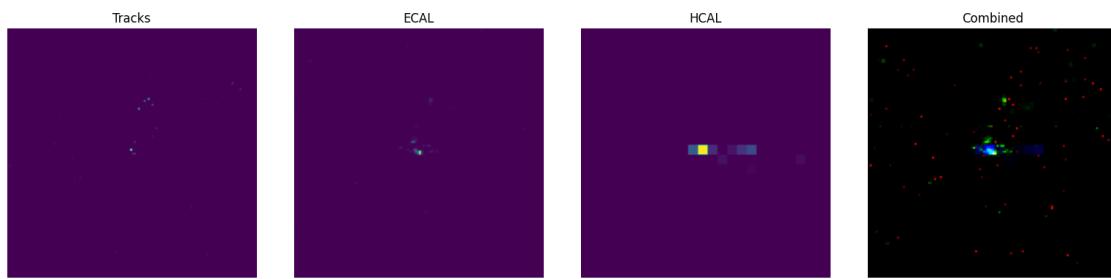


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

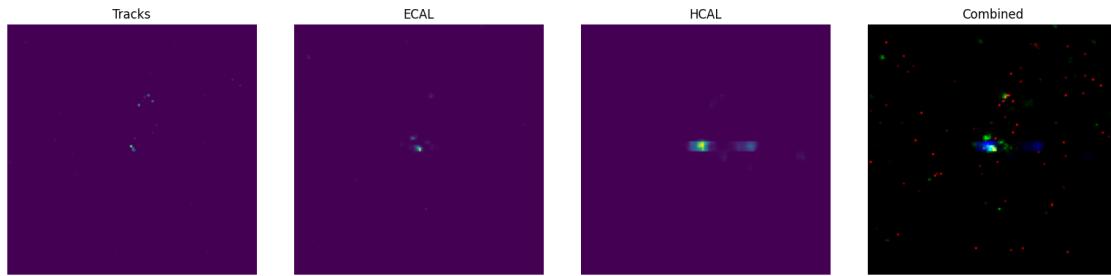


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

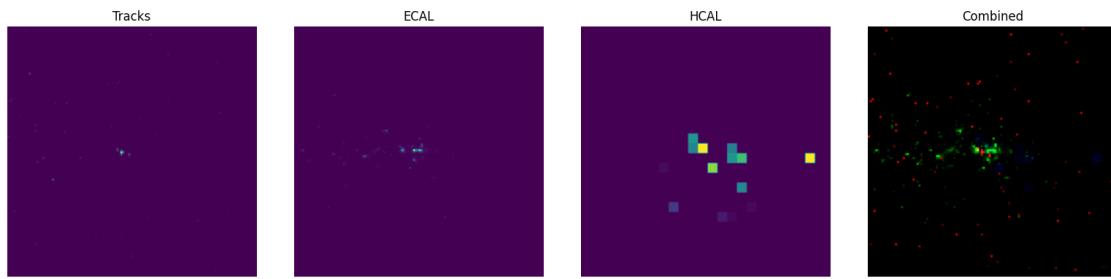


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

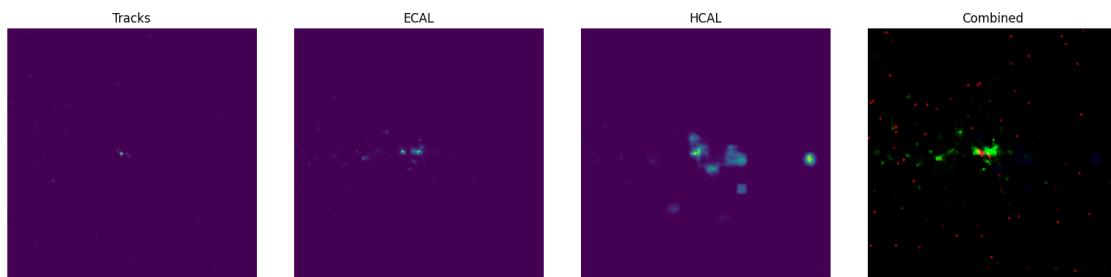


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

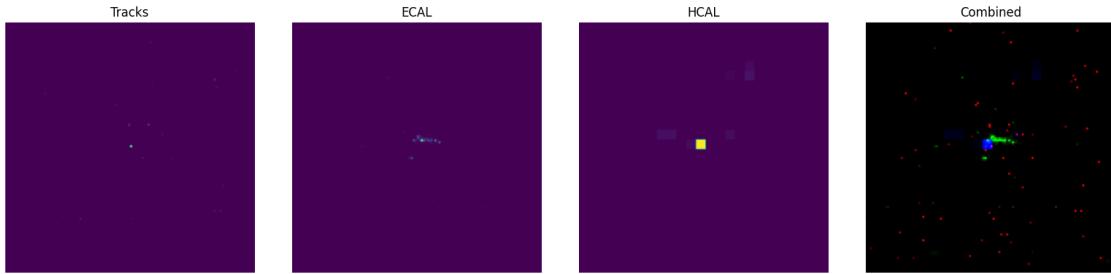


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

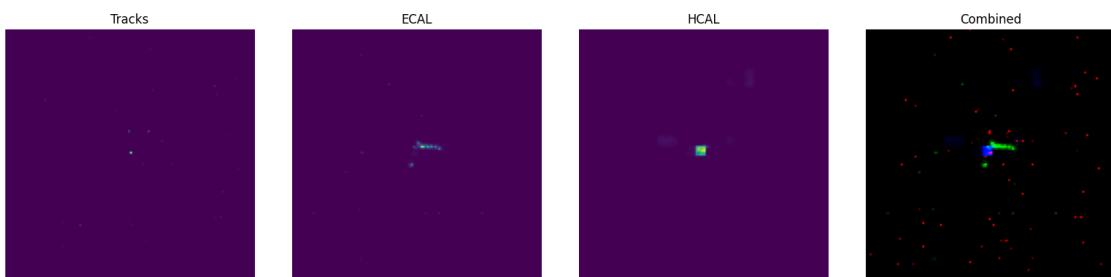


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 176

100% | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012432325333356858

epoch: 177

100% | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012430563900852576

epoch: 178

100% | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012427805181359873

epoch: 179

100% | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.0001242587492801249

epoch: 180

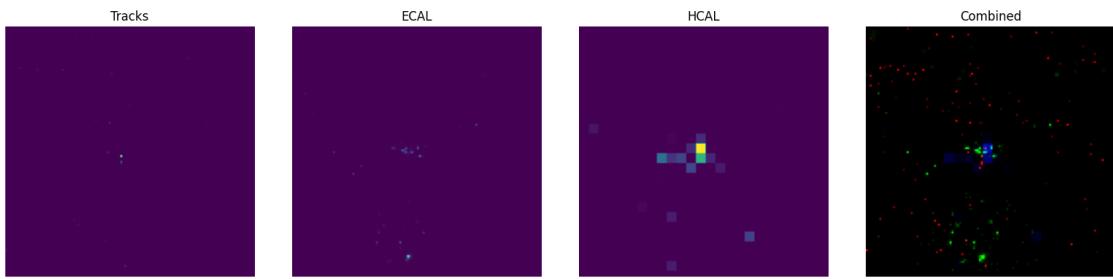
100% | 625/625 [06:53<00:00, 1.51it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

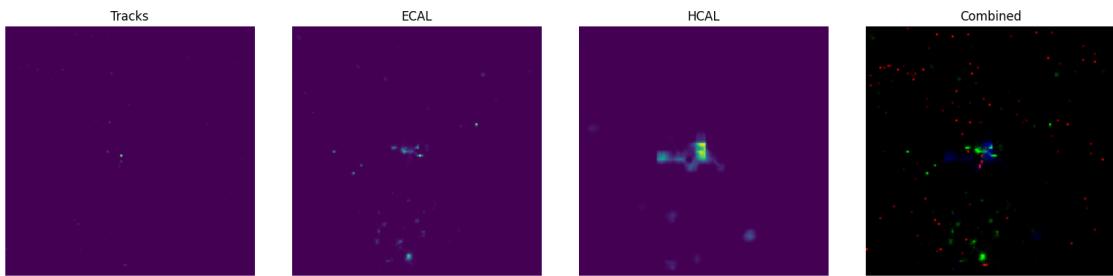
train_loss: 0.0001242476743995212

=====

Sample #0

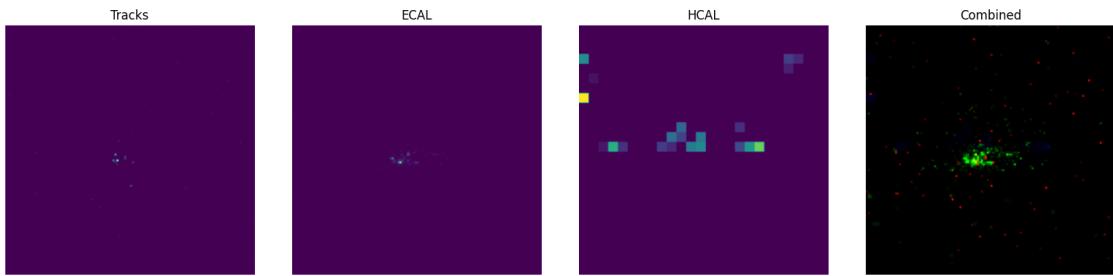


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

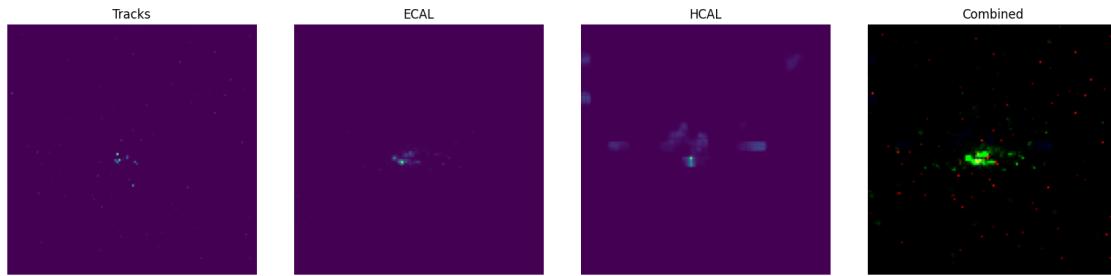


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

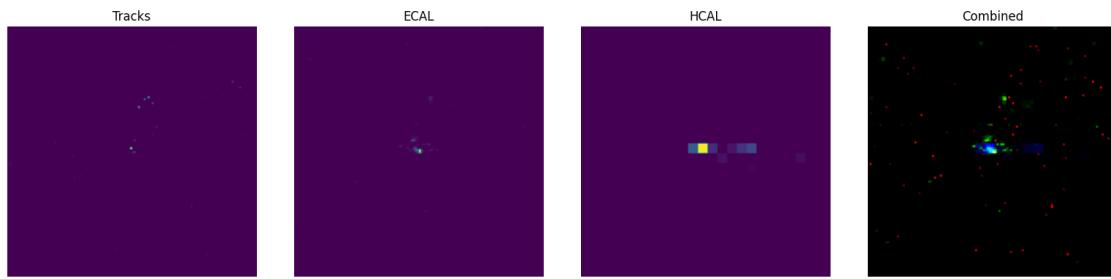


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

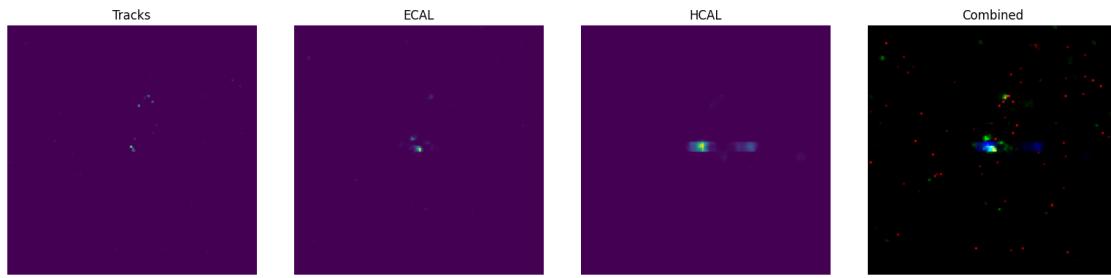


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

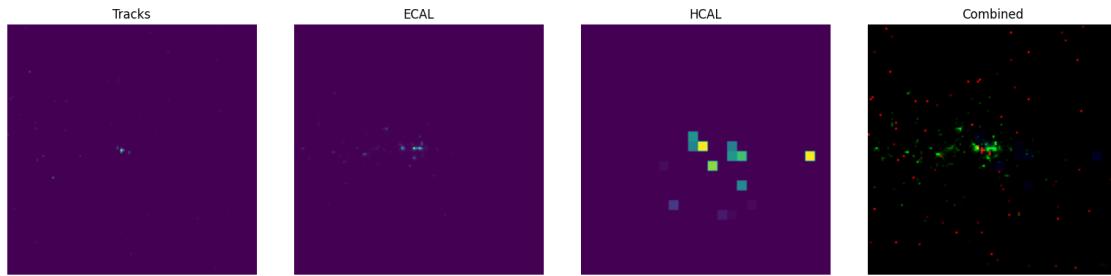


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

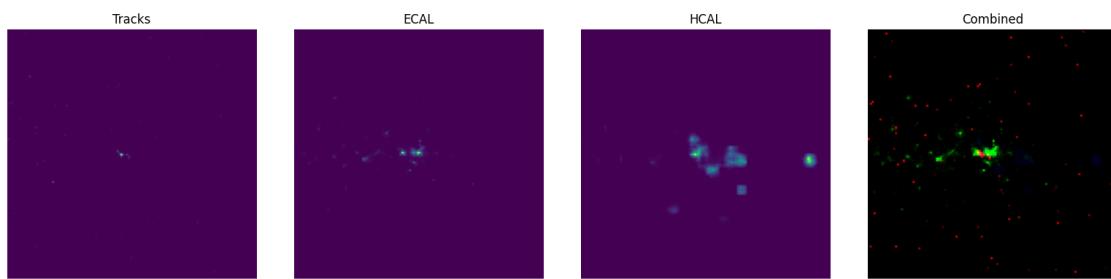


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

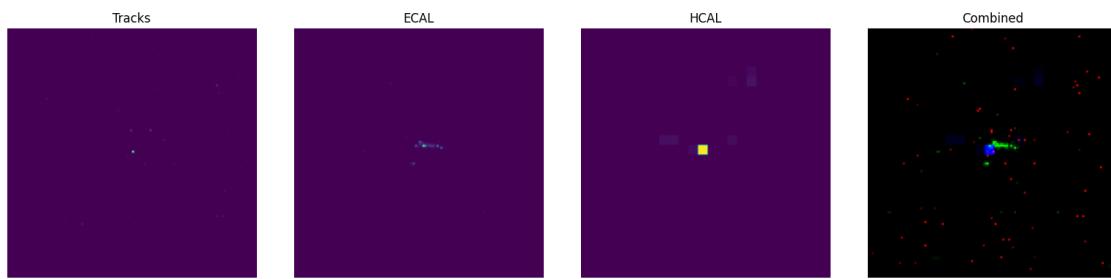


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

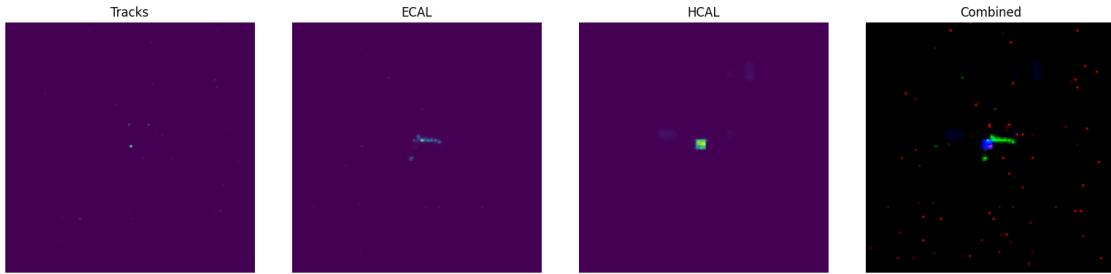


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 181

100% | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012422643513418735

epoch: 182

100% | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.000124202092573978

epoch: 183

100% | 625/625 [06:52<00:00, 1.51it/s]

train_loss: 0.00012418691046768798

epoch: 184

100% | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012417254694737493

epoch: 185

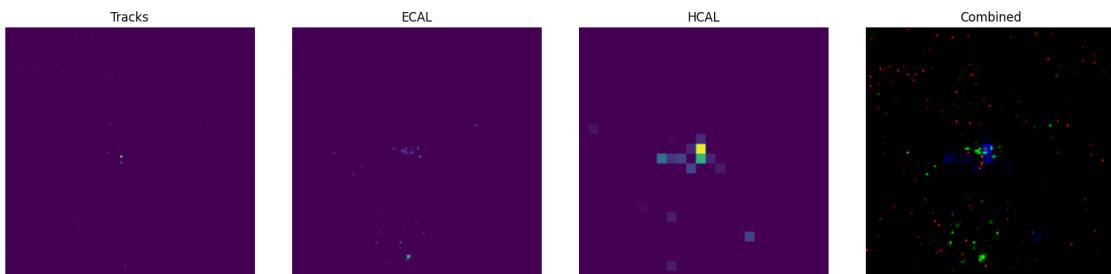
100% | 625/625 [06:53<00:00, 1.51it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

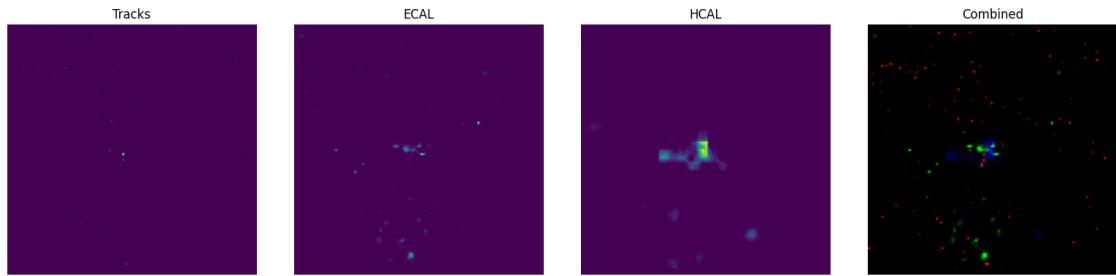
train_loss: 0.00012415458528557791

=====

Sample #0

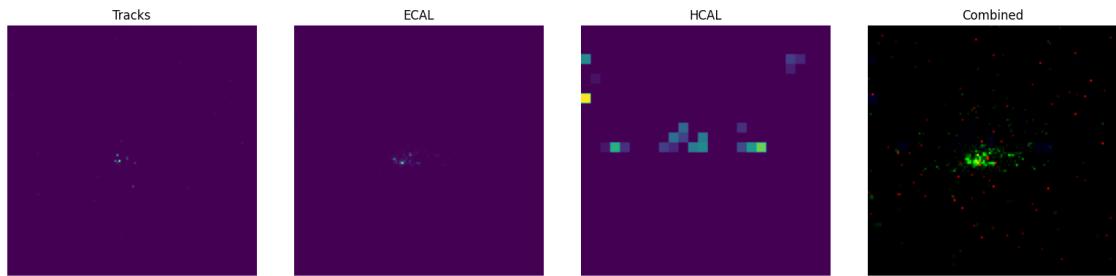


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

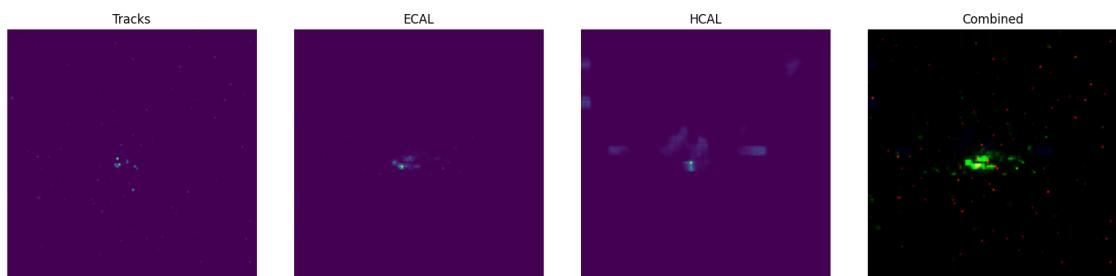


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

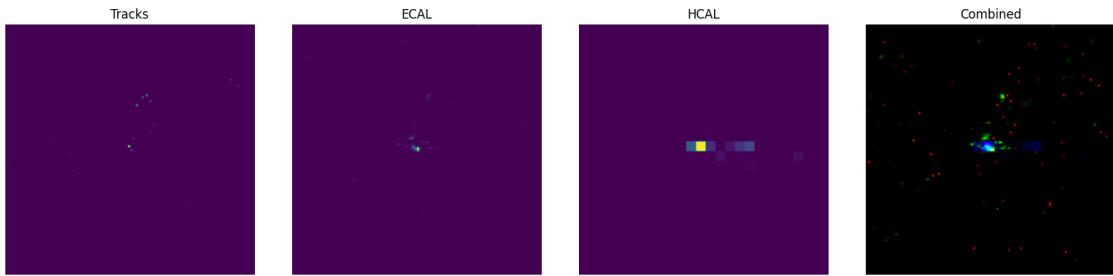


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

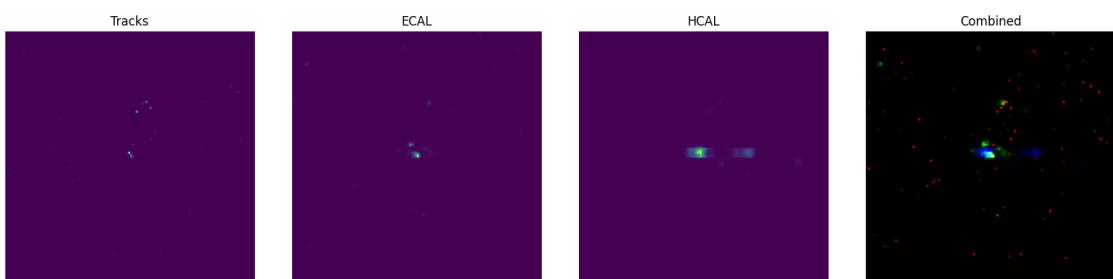


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

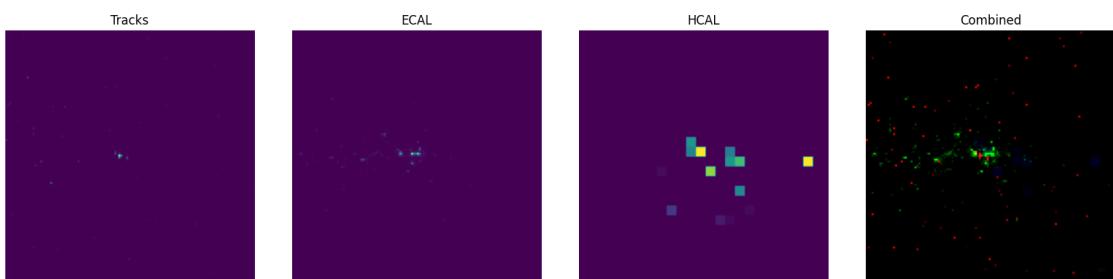


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

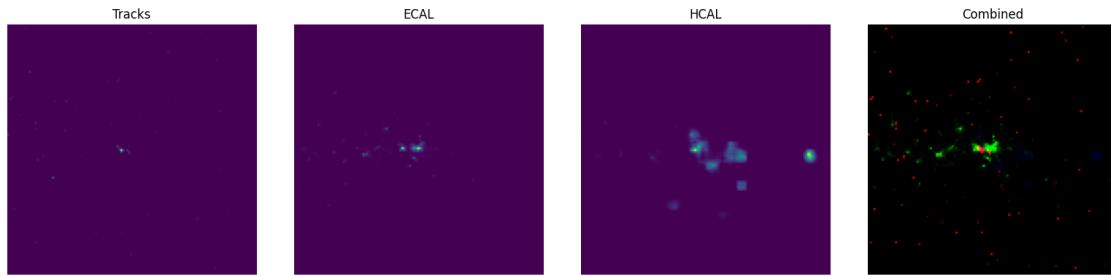


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

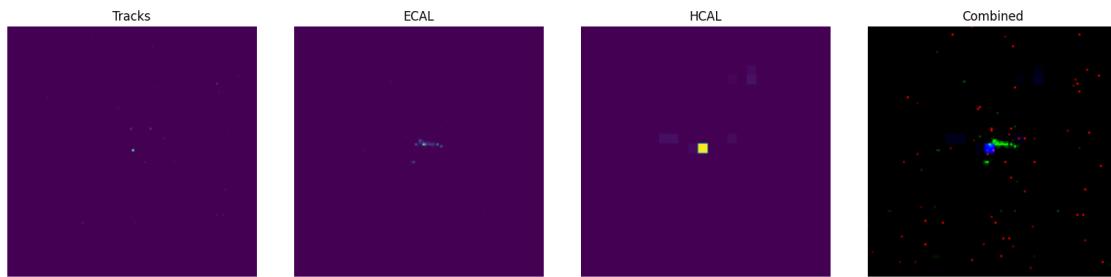


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

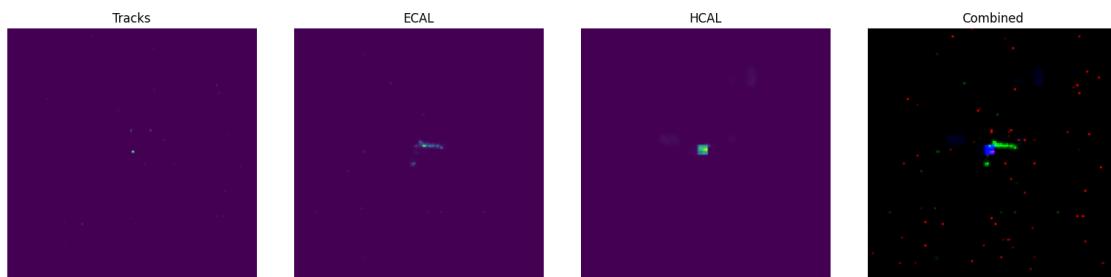


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 186

100%| 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.0001241325335460715

epoch: 187

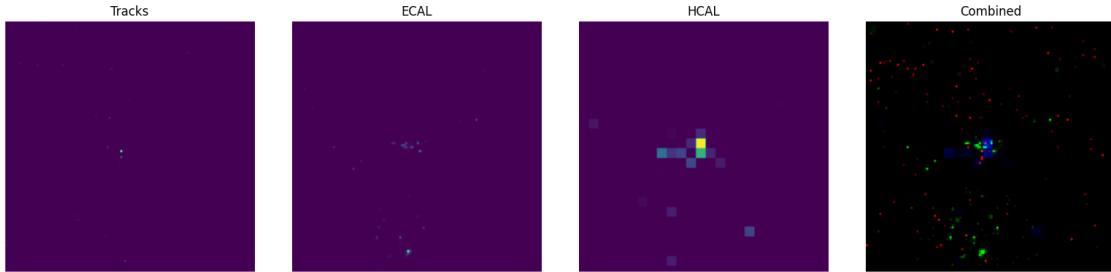
100%| 625/625 [06:53<00:00, 1.51it/s]

```
train_loss: 0.0001241218896349892
epoch: 188
100%|                                     | 625/625 [06:54<00:00, 1.51it/s]

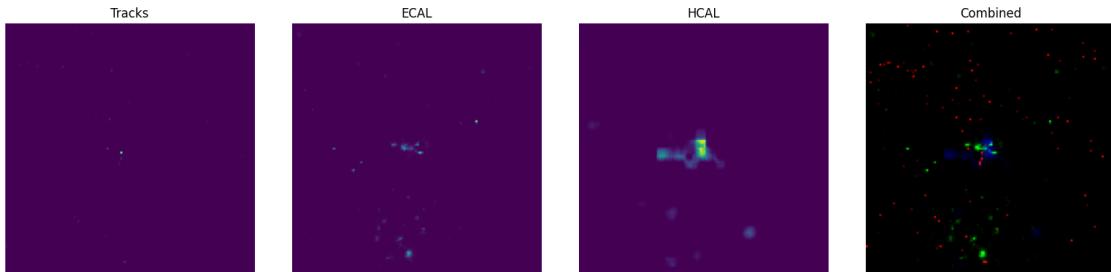
train_loss: 0.00012410349737619982
epoch: 189
100%|                                     | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012408642893424257
epoch: 190
100%|                                     | 625/625 [06:53<00:00, 1.51it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001240671020699665
=====
Sample #0
```

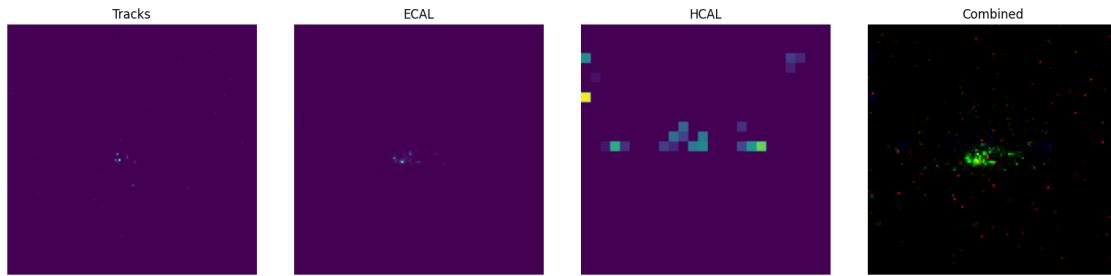


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

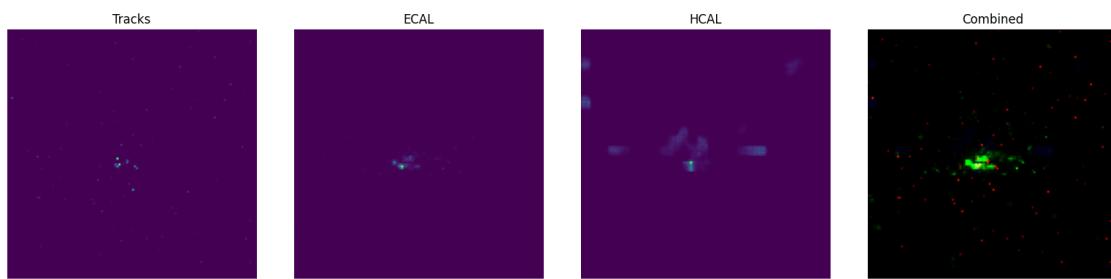


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

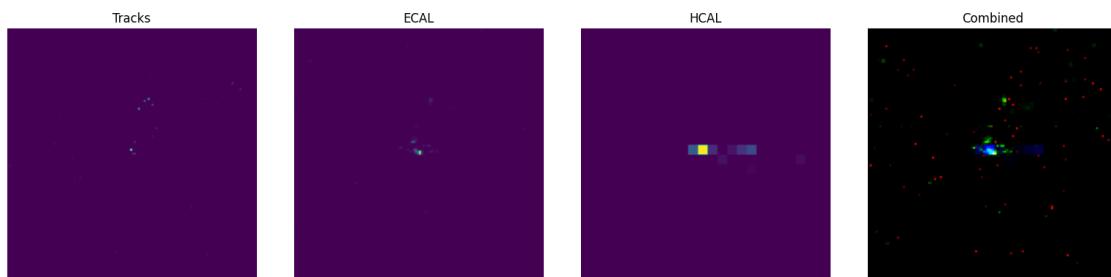


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

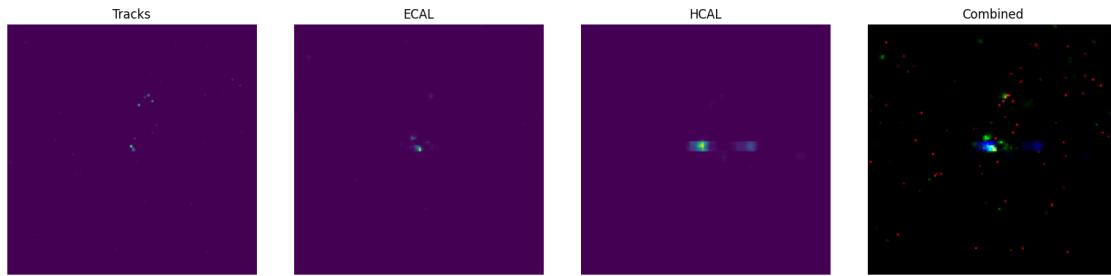


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

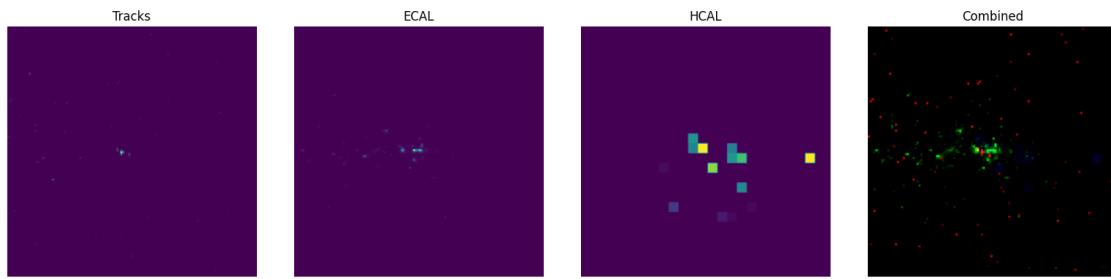


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

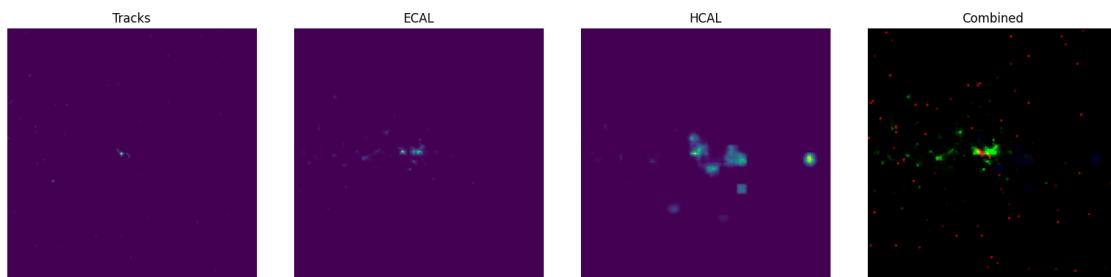


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

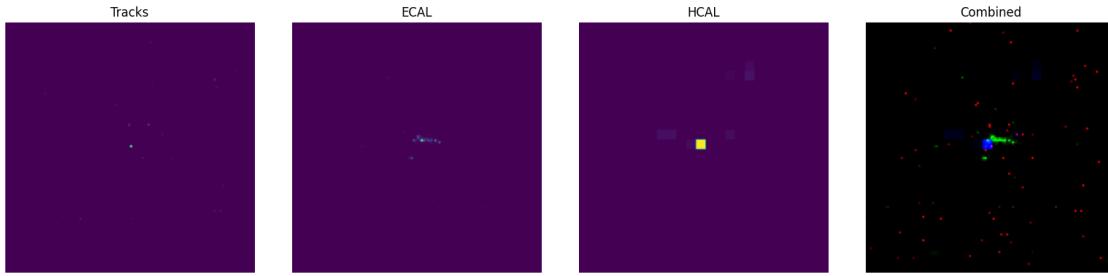


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

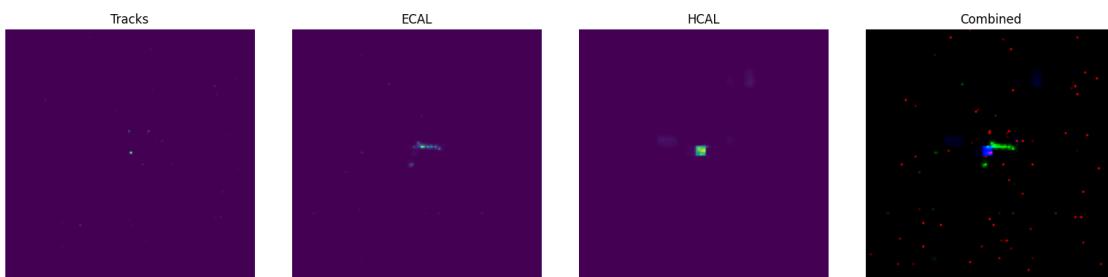


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



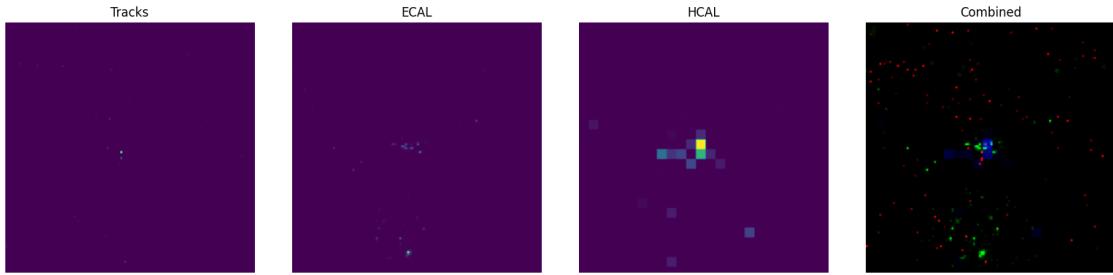
Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



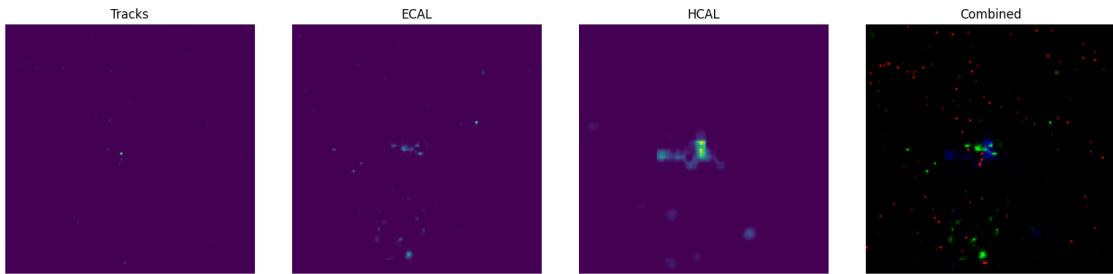
```

epoch: 191
100%|          | 625/625 [06:52<00:00,  1.51it/s]
train_loss: 0.00012405489097582176
epoch: 192
100%|          | 625/625 [06:53<00:00,  1.51it/s]
train_loss: 0.0001240377040579915
epoch: 193
100%|          | 625/625 [06:52<00:00,  1.51it/s]
train_loss: 0.00012402621890651063
epoch: 194
100%|          | 625/625 [06:54<00:00,  1.51it/s]
train_loss: 0.00012401504677254707
epoch: 195
100%|          | 625/625 [06:54<00:00,  1.51it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).
train_loss: 0.00012399583439109846
=====
```

Sample #0

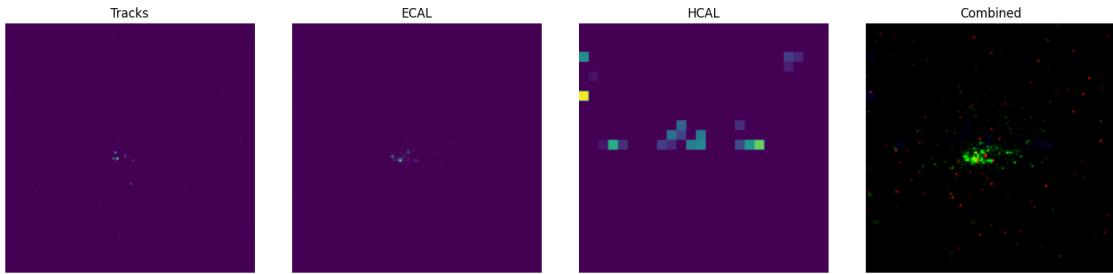


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

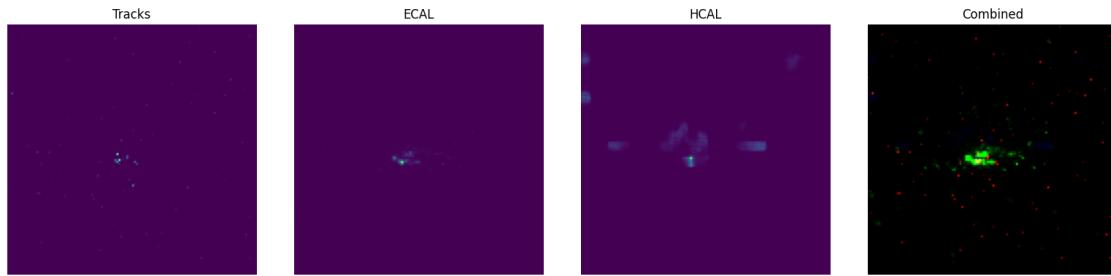


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

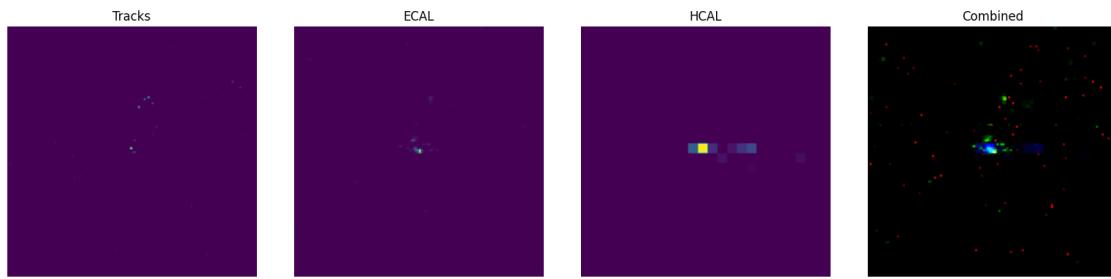


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

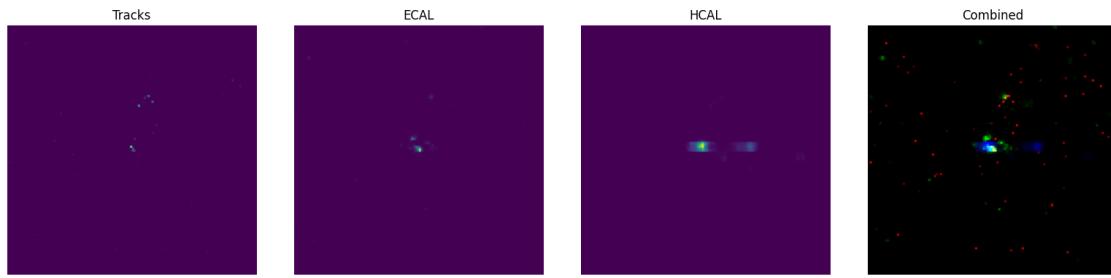


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

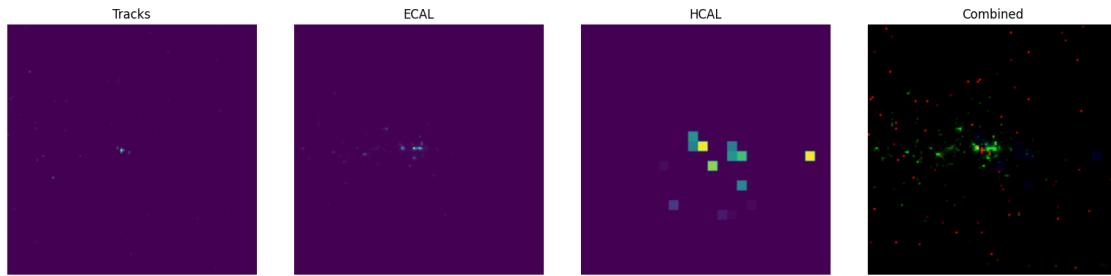


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

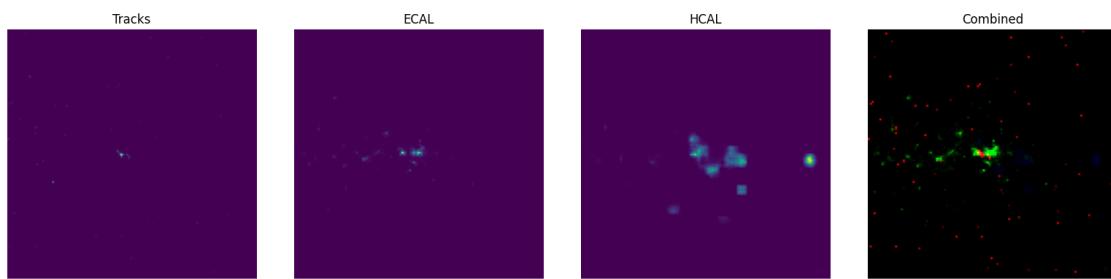


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

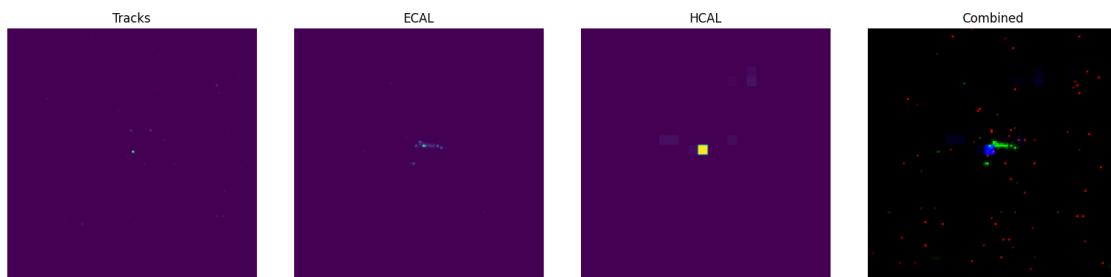


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

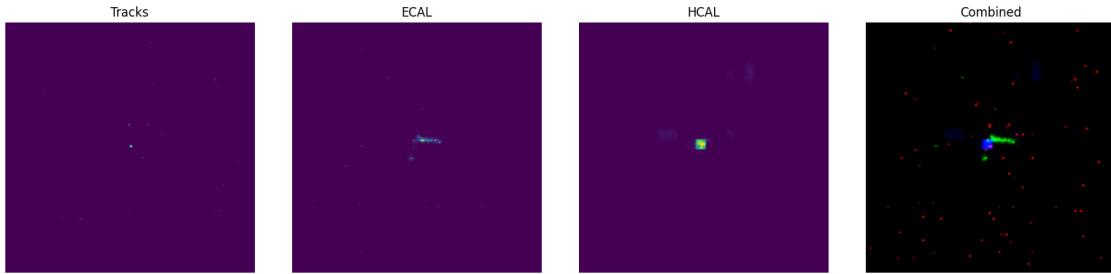


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 196

100% | 625/625 [06:55<00:00, 1.50it/s]

train_loss: 0.0001239834678824991

epoch: 197

100% | 625/625 [06:56<00:00, 1.50it/s]

train_loss: 0.00012397050767904149

epoch: 198

100% | 625/625 [06:55<00:00, 1.51it/s]

train_loss: 0.00012395661443006248

epoch: 199

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012394333144184202

epoch: 200

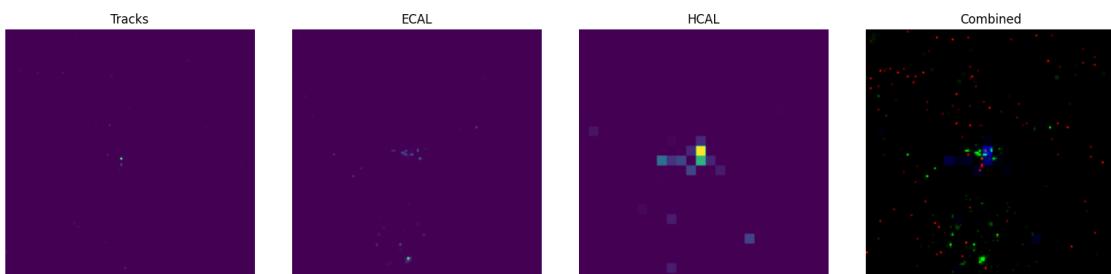
100% | 625/625 [06:54<00:00, 1.51it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

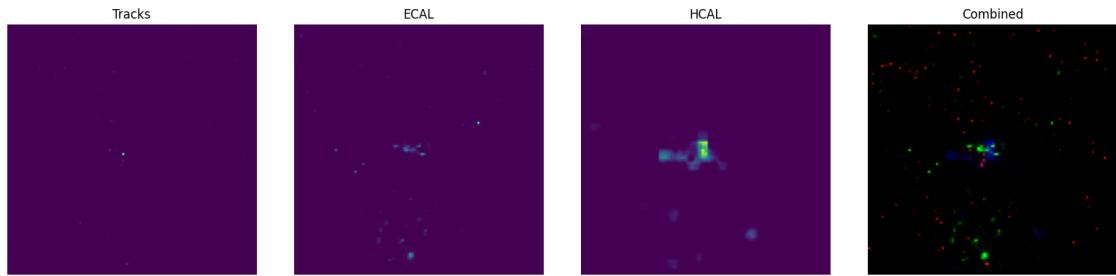
train_loss: 0.00012392716651083902

=====

Sample #0

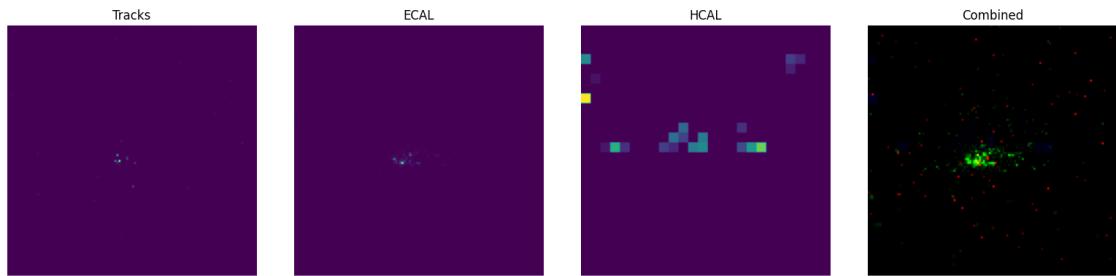


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

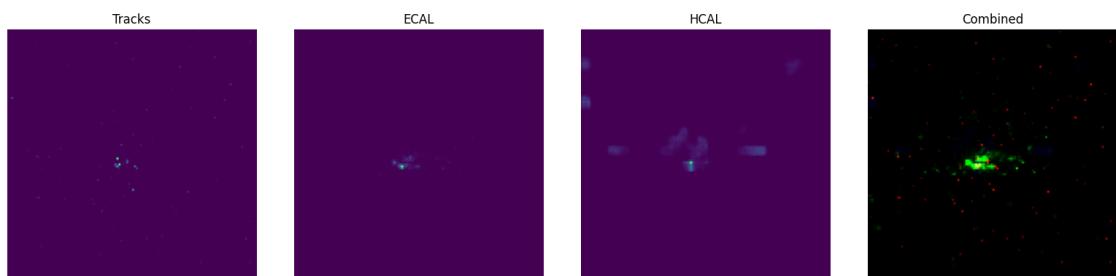


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

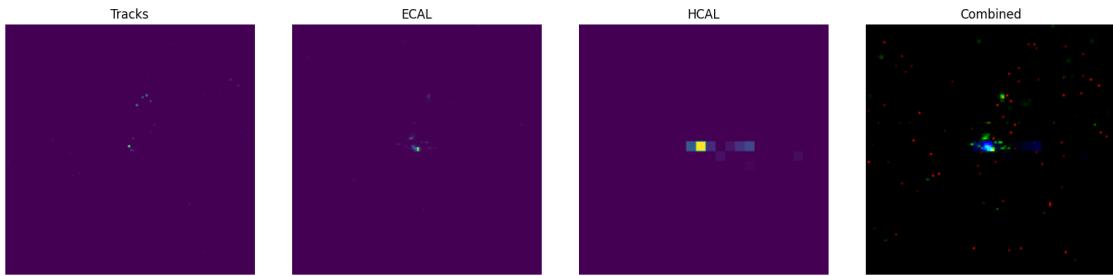


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

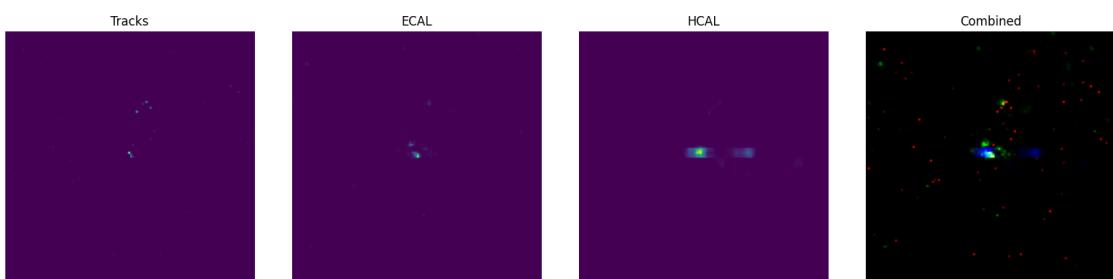


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

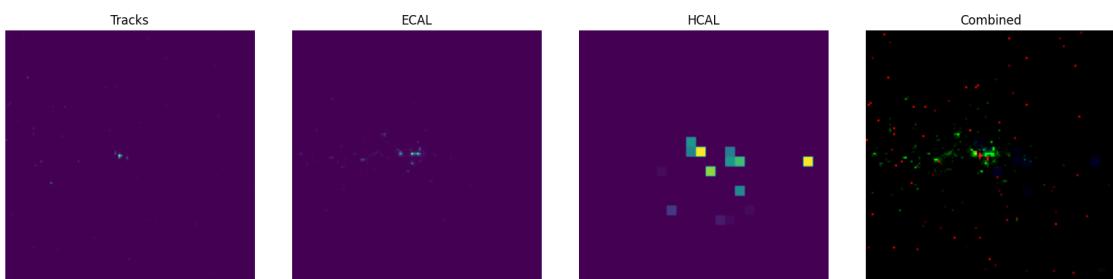


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

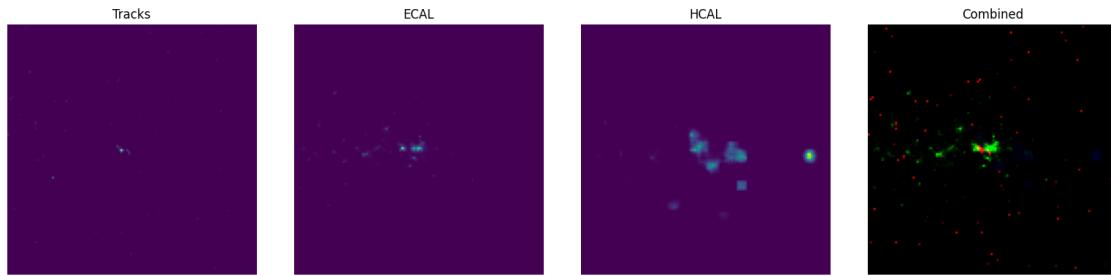


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

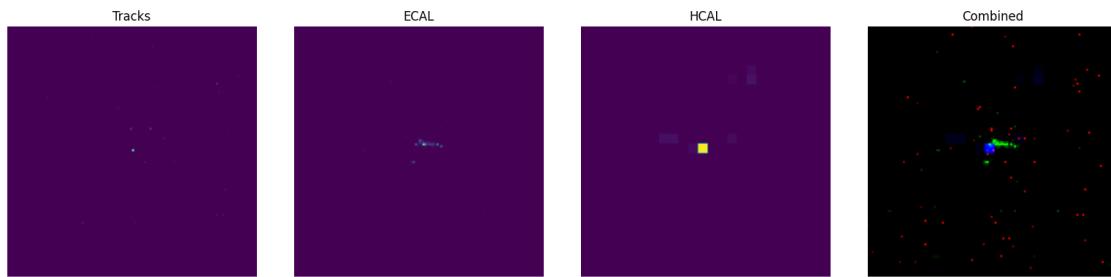


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

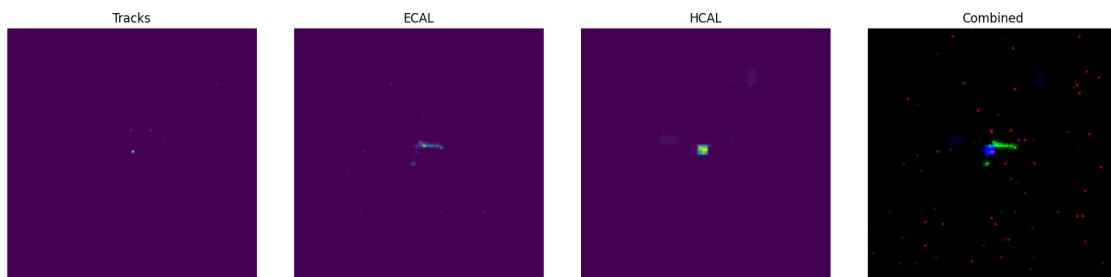


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 201

100%| 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012391577841481193

epoch: 202

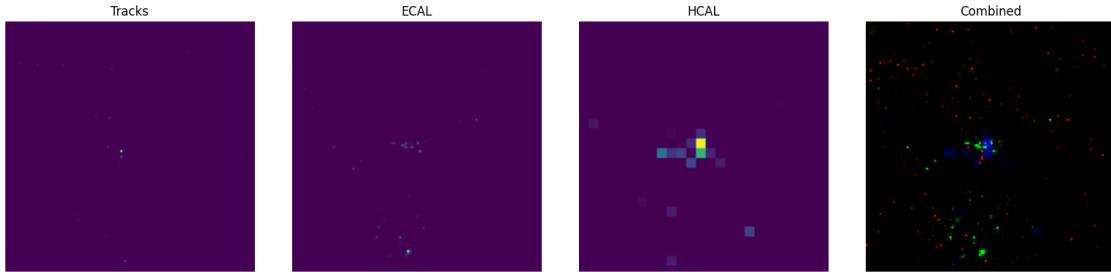
100%| 625/625 [06:54<00:00, 1.51it/s]

```
train_loss: 0.00012390648943837732
epoch: 203
100%|                                     | 625/625 [06:54<00:00, 1.51it/s]

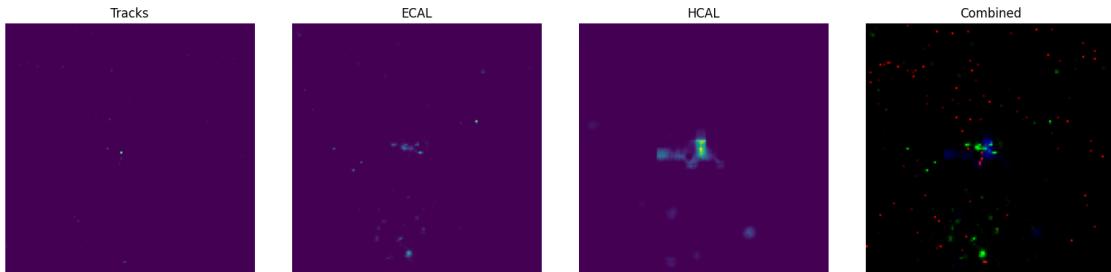
train_loss: 0.000123891736054793
epoch: 204
100%|                                     | 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.0001238805173547007
epoch: 205
100%|                                     | 625/625 [06:54<00:00, 1.51it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001238680504146032
=====
Sample #0
```

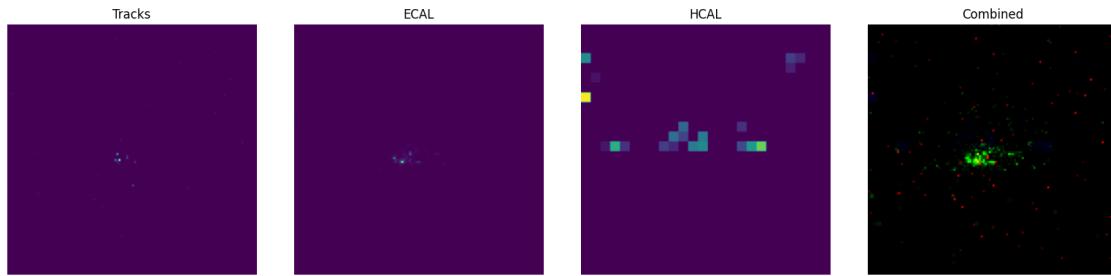


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

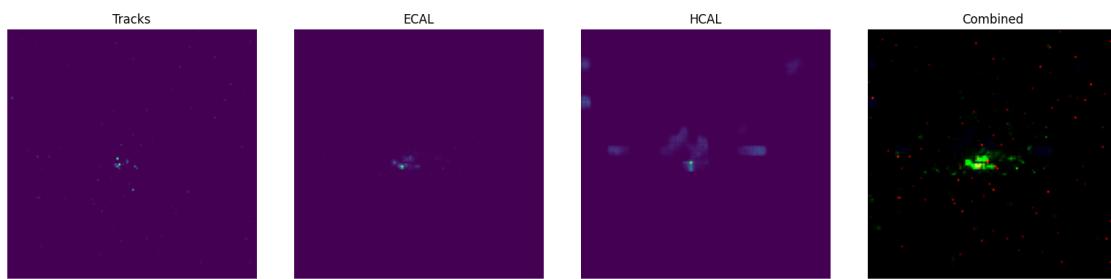


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

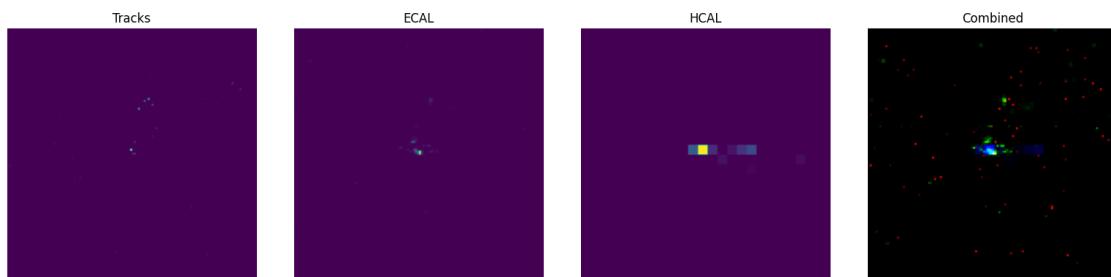


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

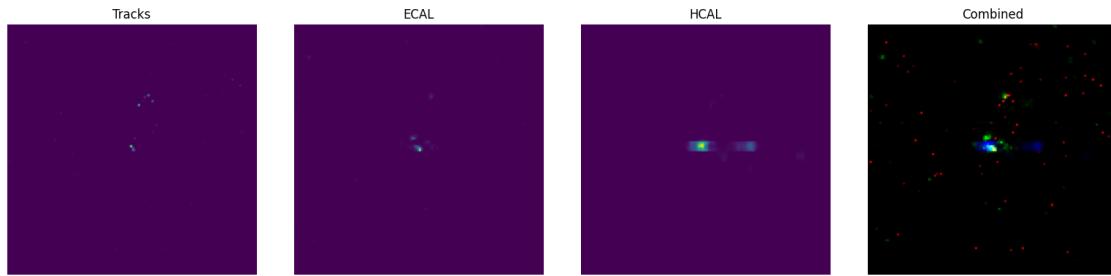


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

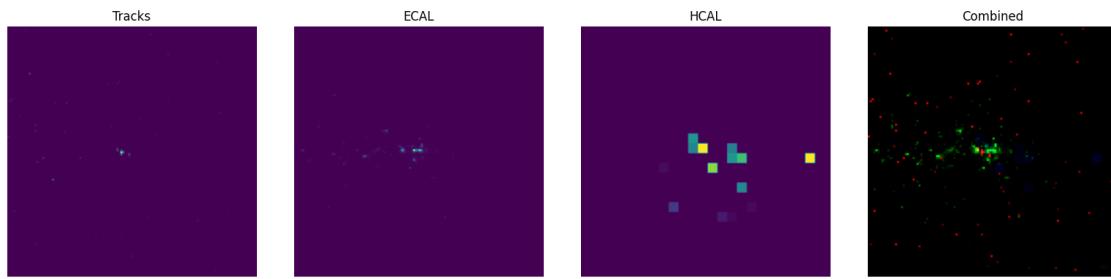


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

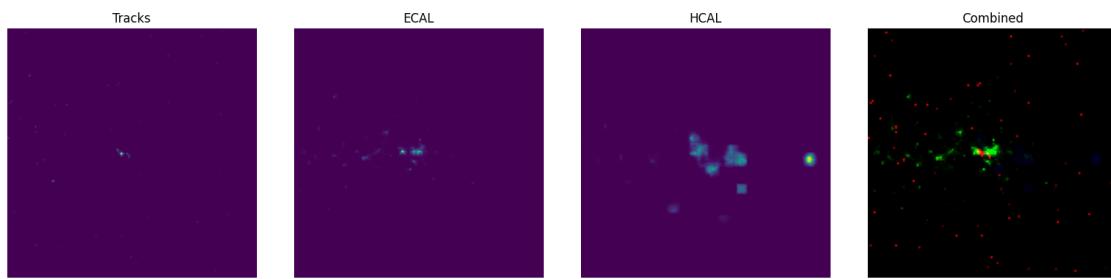


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

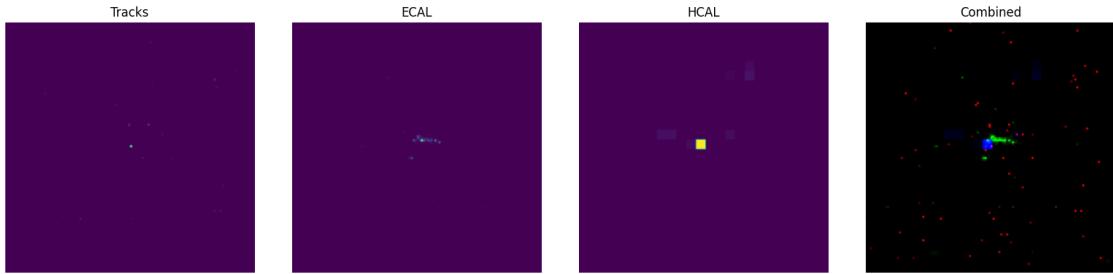


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

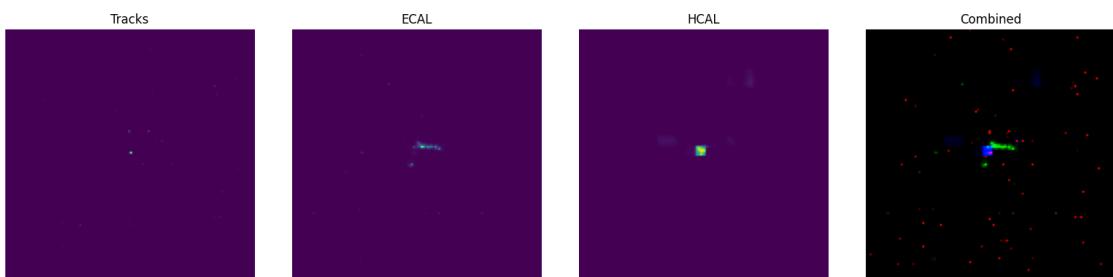


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 206

100%| 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.0001238538670237176

epoch: 207

100%| 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012384712554048747

epoch: 208

100%| 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012383679406484588

epoch: 209

100%| 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.0001238222851534374

epoch: 210

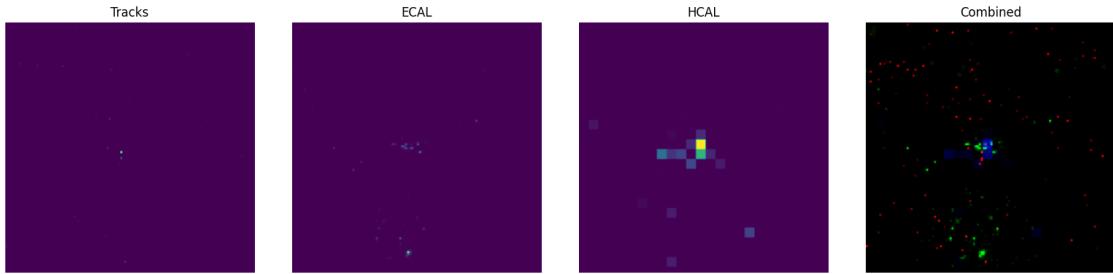
100%| 625/625 [06:55<00:00, 1.50it/s]

train_loss: 0.00012381358471466228

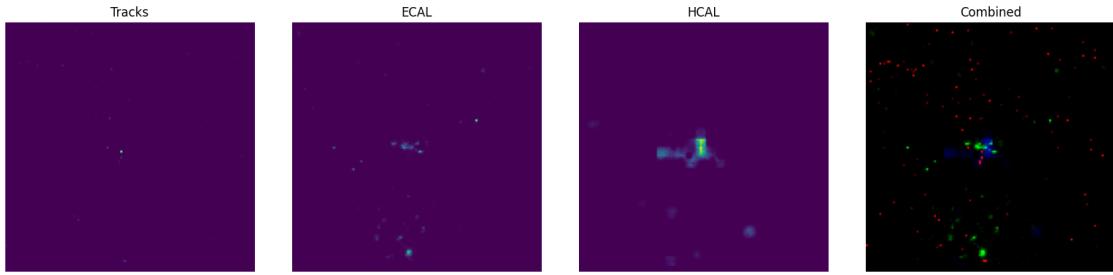
=====

Sample #0

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

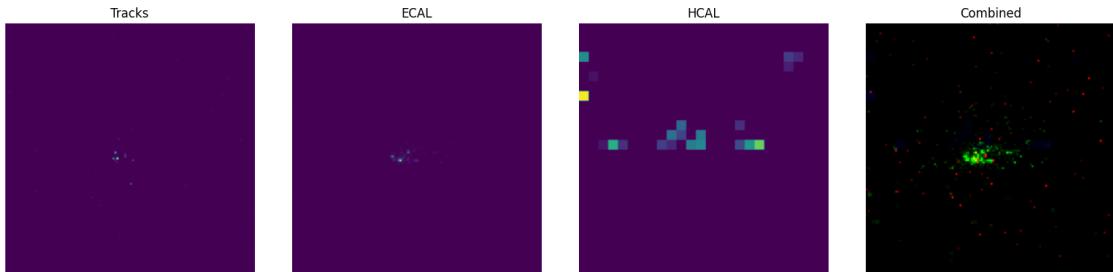


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

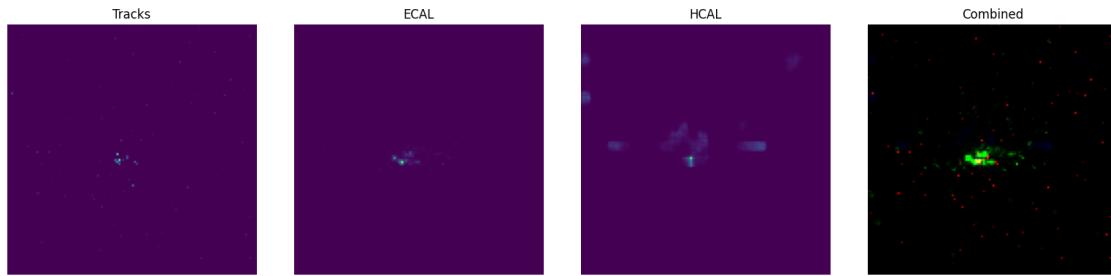


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

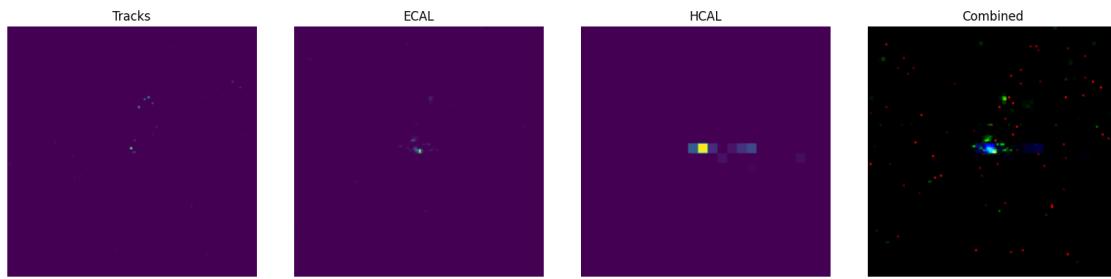


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

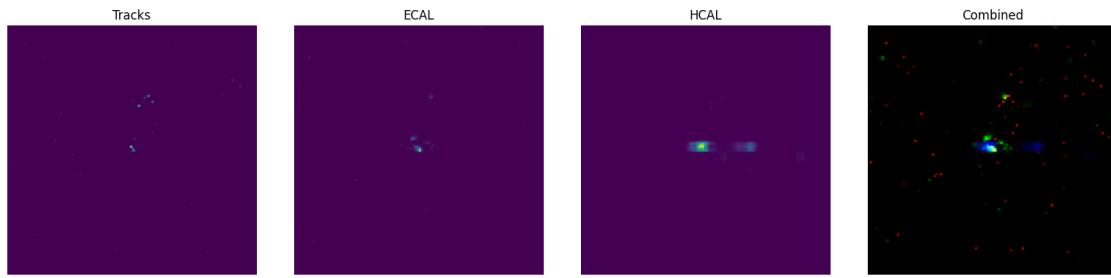


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

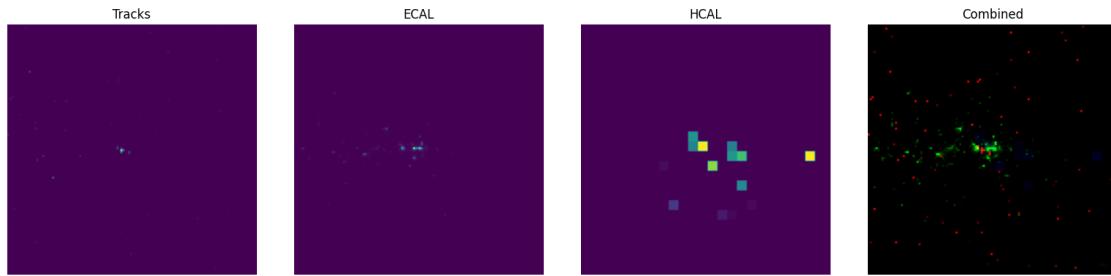


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

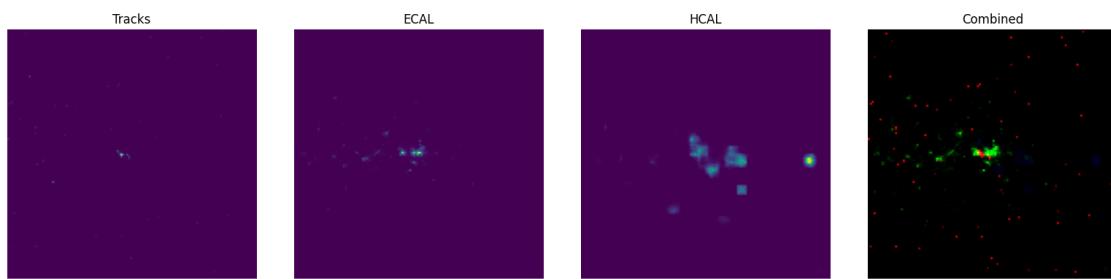


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

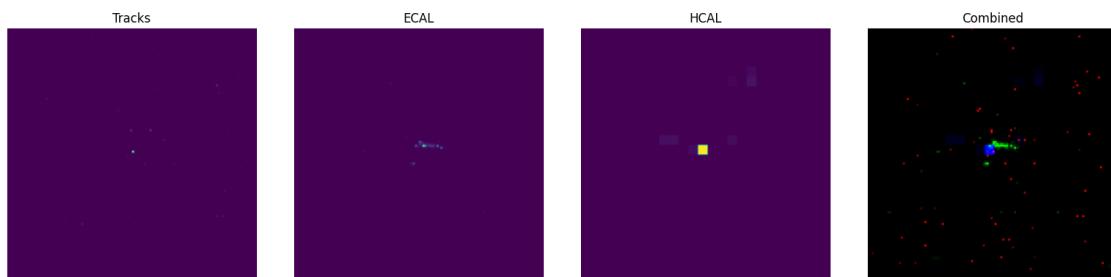


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

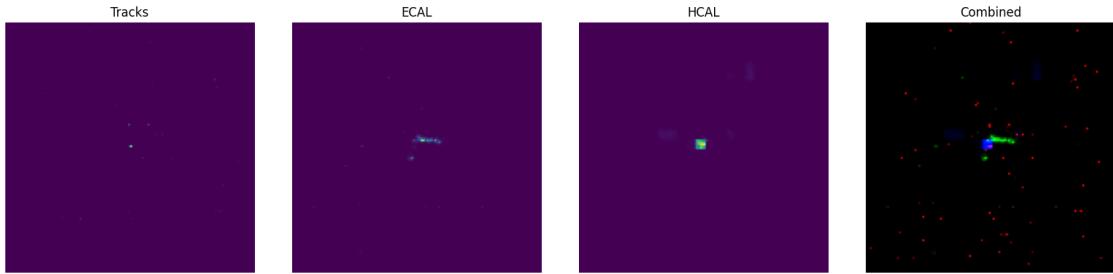


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 211

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.0001238002991536632

epoch: 212

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012378719502594322

epoch: 213

100% | 625/625 [06:55<00:00, 1.51it/s]

train_loss: 0.00012378089914564044

epoch: 214

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012376796040916815

epoch: 215

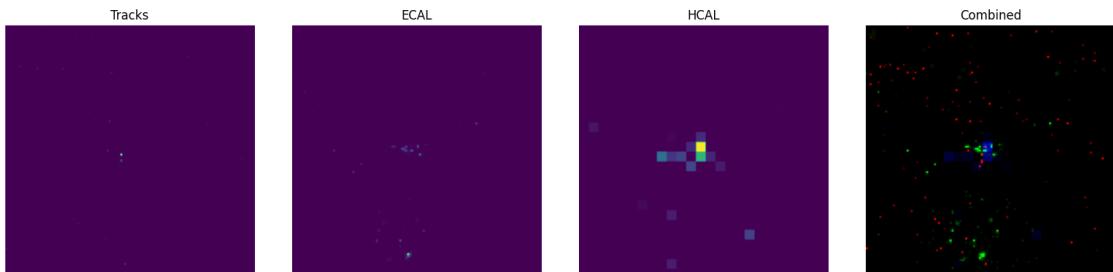
100% | 625/625 [06:55<00:00, 1.50it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

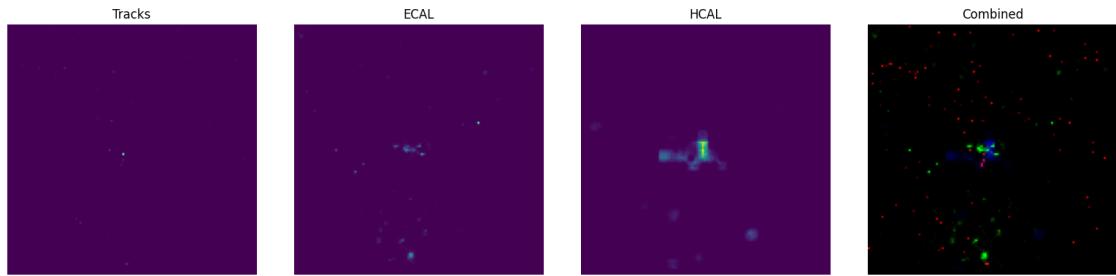
train_loss: 0.00012375421820906923

=====

Sample #0

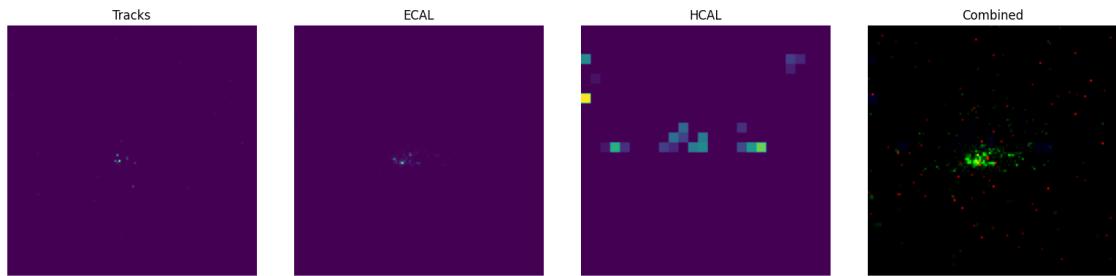


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

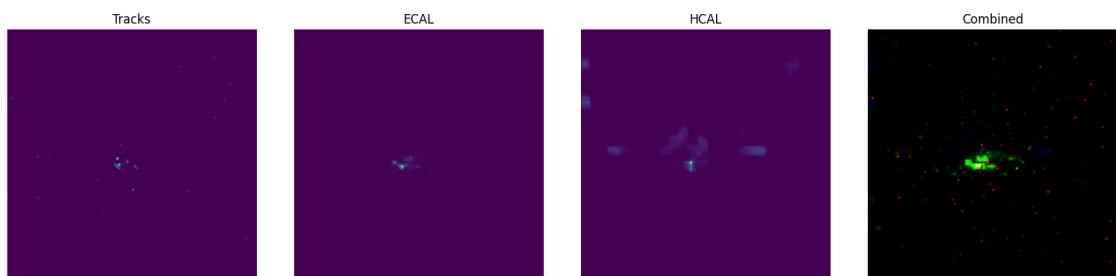


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

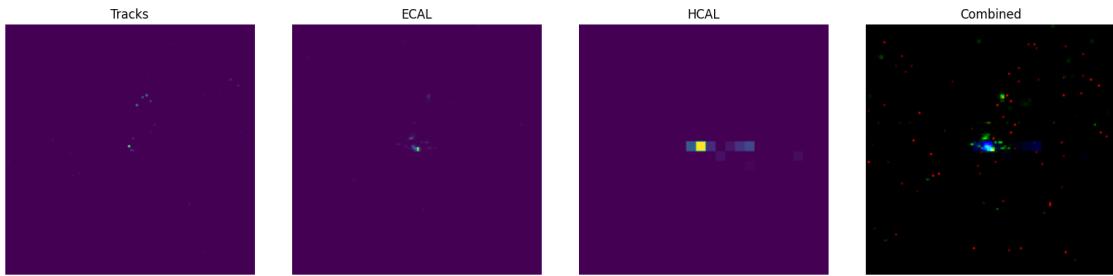


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

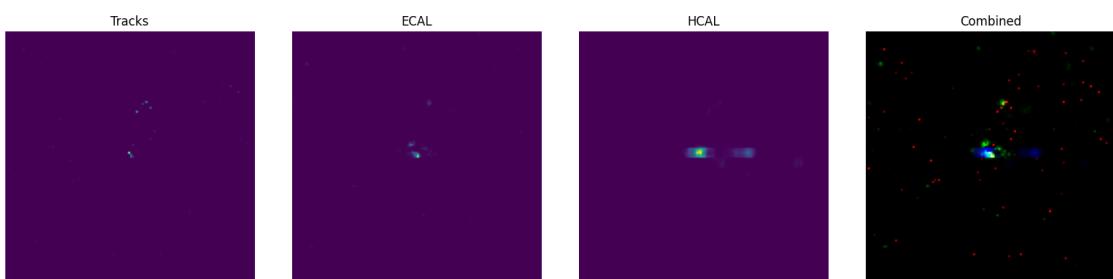


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

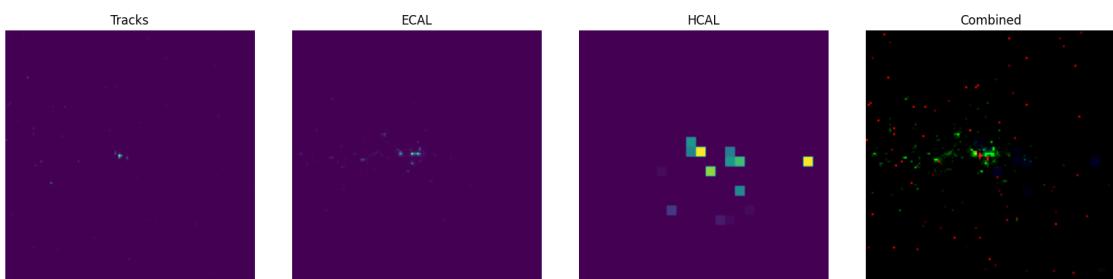


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

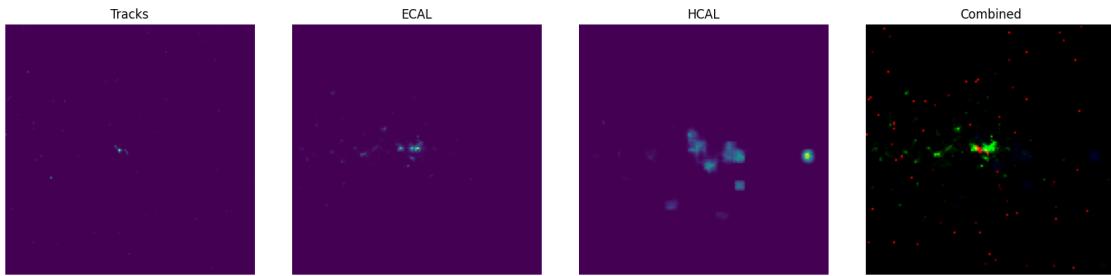


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

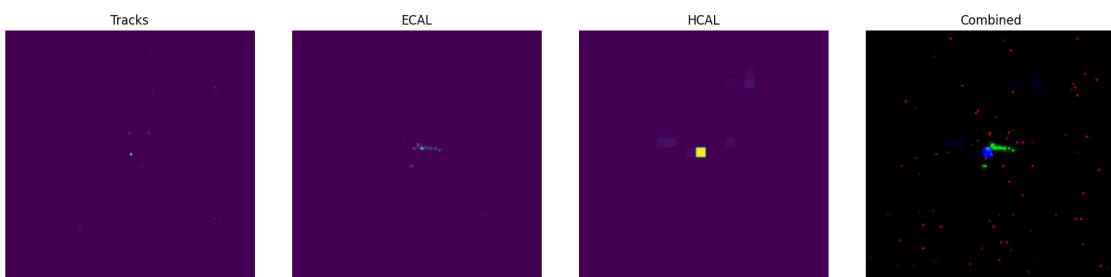


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

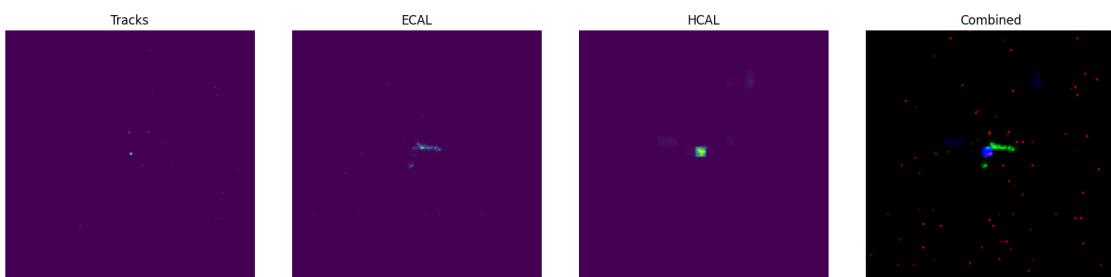


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 216

100%| 625/625 [06:53<00:00, 1.51it/s]

train_loss: 0.00012374549258965998

epoch: 217

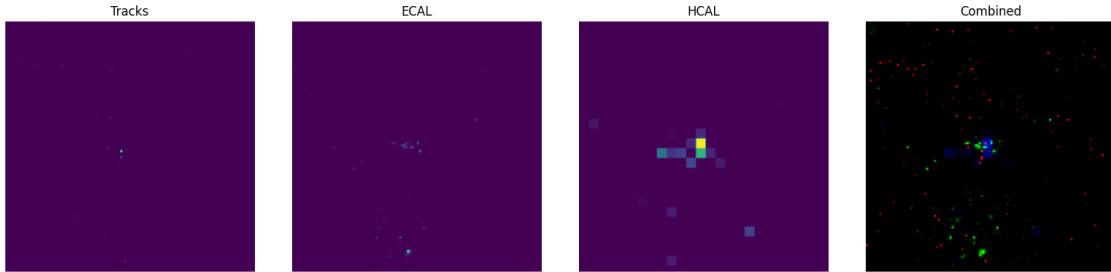
100%| 625/625 [06:54<00:00, 1.51it/s]

```
train_loss: 0.00012374186167726293
epoch: 218
100%|                                     | 625/625 [06:58<00:00, 1.49it/s]

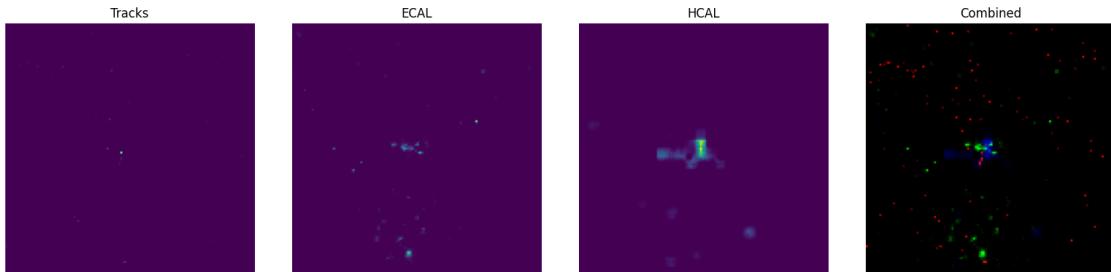
train_loss: 0.00012372173074400052
epoch: 219
100%|                                     | 625/625 [06:55<00:00, 1.50it/s]

train_loss: 0.0001237133103539236
epoch: 220
100%|                                     | 625/625 [06:55<00:00, 1.50it/s]
Clipping input data to the valid range for imshow with RGB data ([0..1] for
floats or [0..255] for integers).

train_loss: 0.0001237025162903592
=====
Sample #0
```

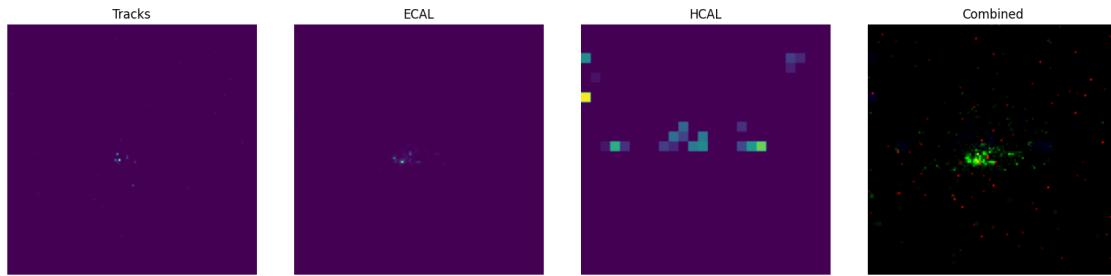


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

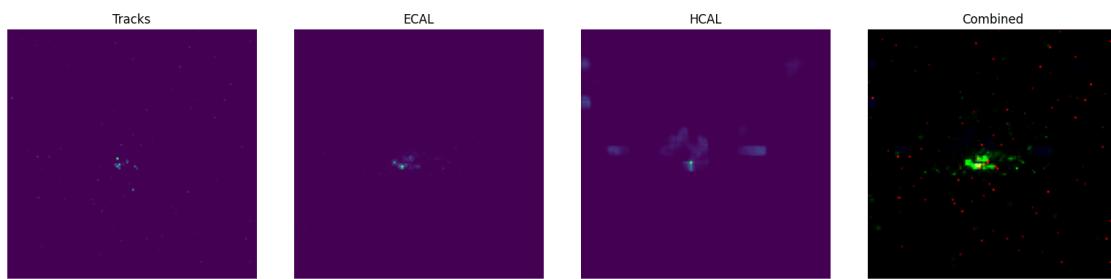


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

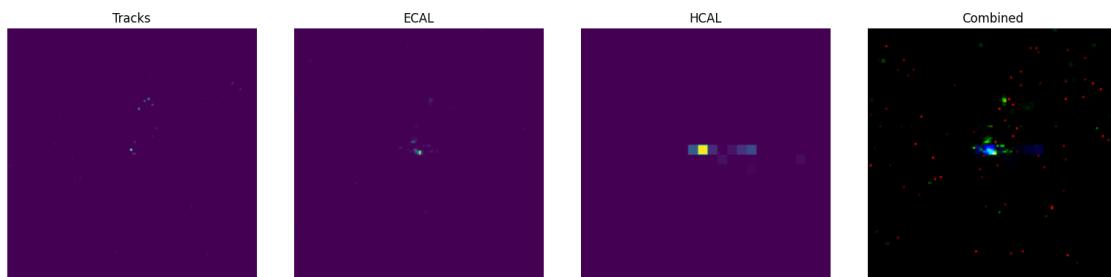


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

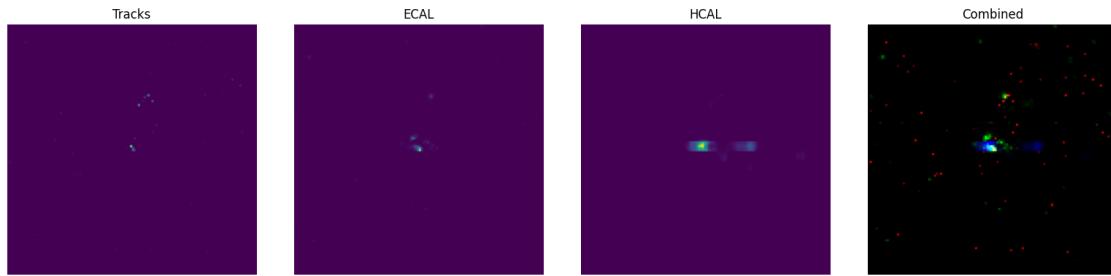


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

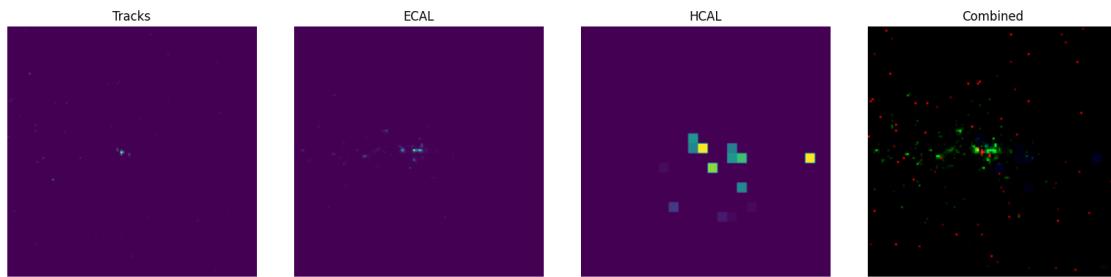


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

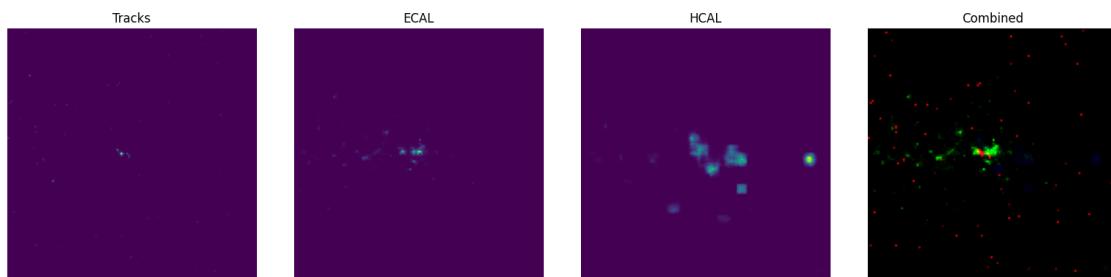


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

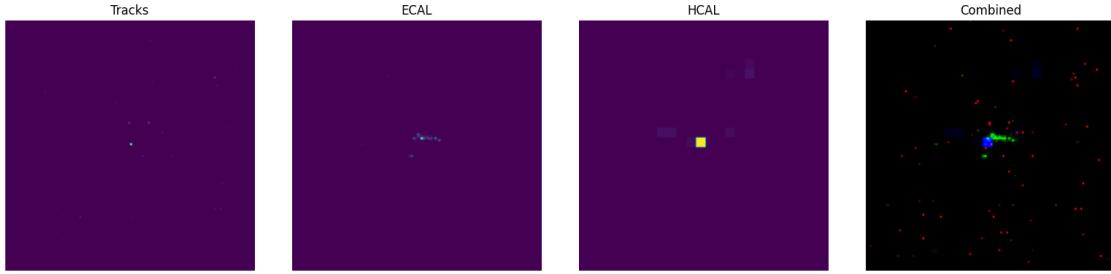


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

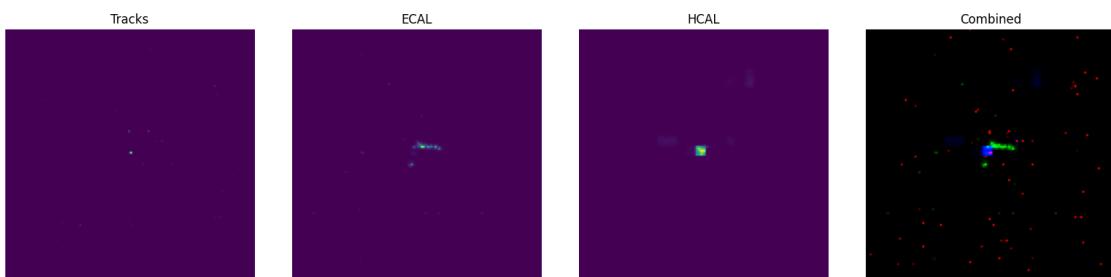


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 221

100% | 625/625 [06:56<00:00, 1.50it/s]

train_loss: 0.0001236905655474402

epoch: 222

100% | 625/625 [06:57<00:00, 1.50it/s]

train_loss: 0.00012368293643230573

epoch: 223

100% | 625/625 [06:55<00:00, 1.50it/s]

train_loss: 0.00012367249153321608

epoch: 224

100% | 625/625 [06:56<00:00, 1.50it/s]

train_loss: 0.00012366189416497945

epoch: 225

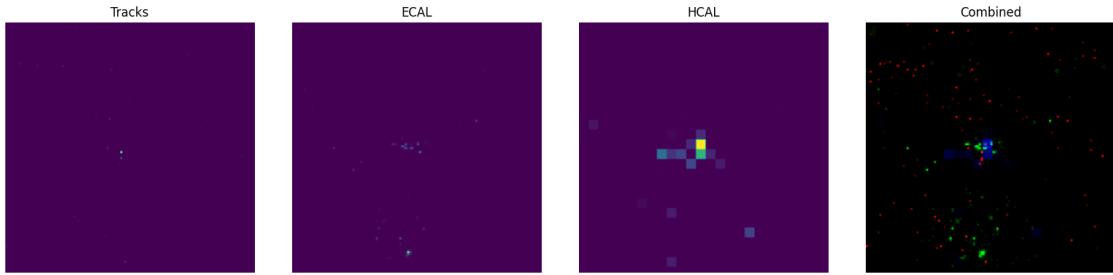
100% | 625/625 [06:56<00:00, 1.50it/s]

Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

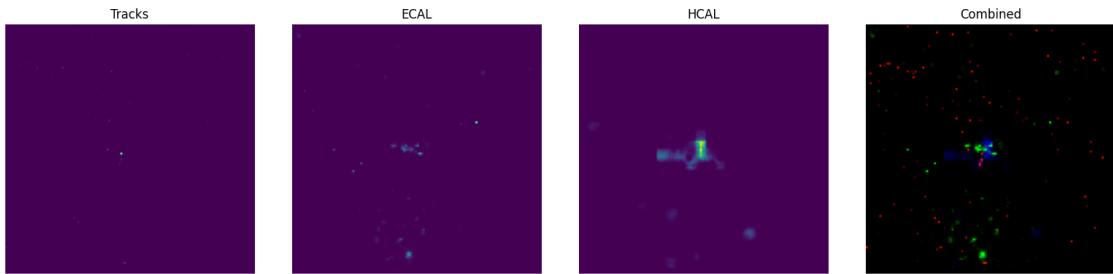
train_loss: 0.0001236543944454752

=====

Sample #0

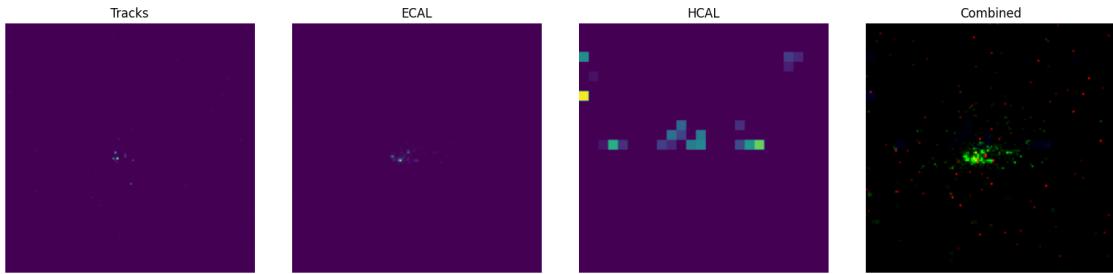


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

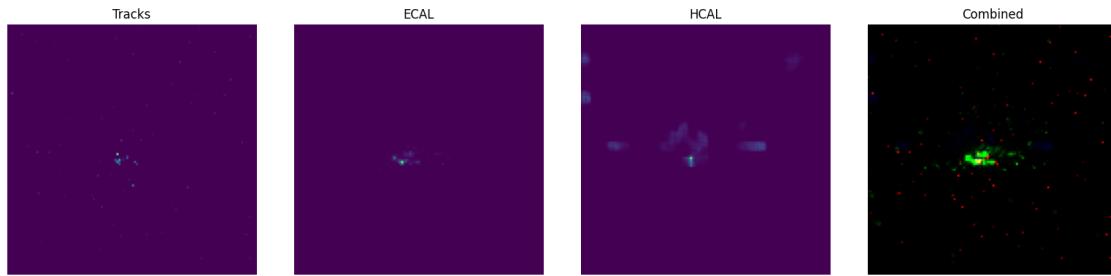


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #1

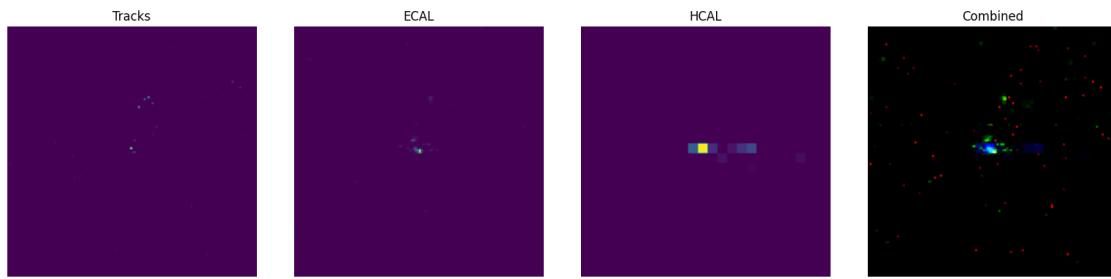


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

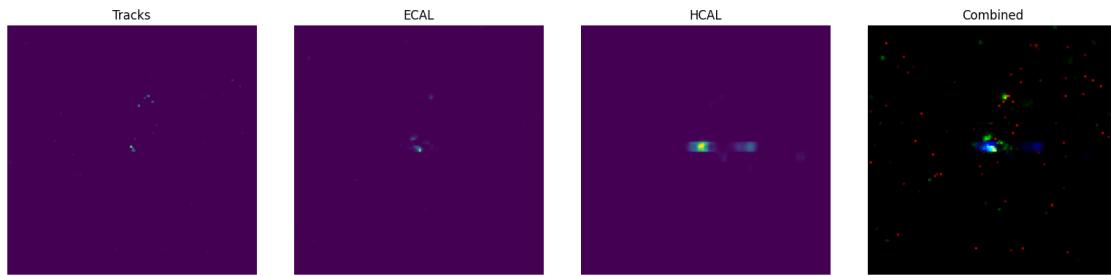


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #2

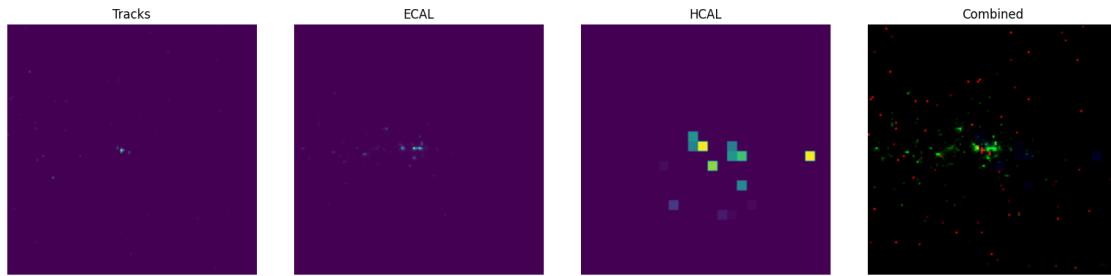


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

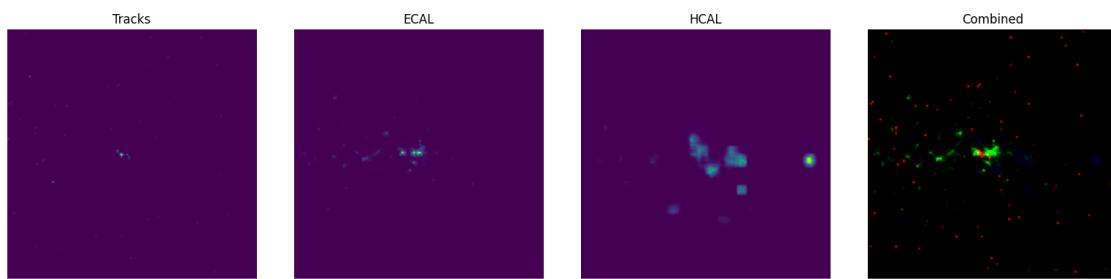


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #3

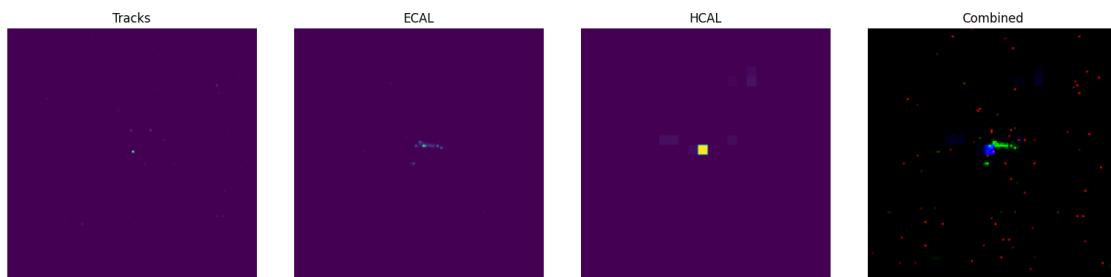


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

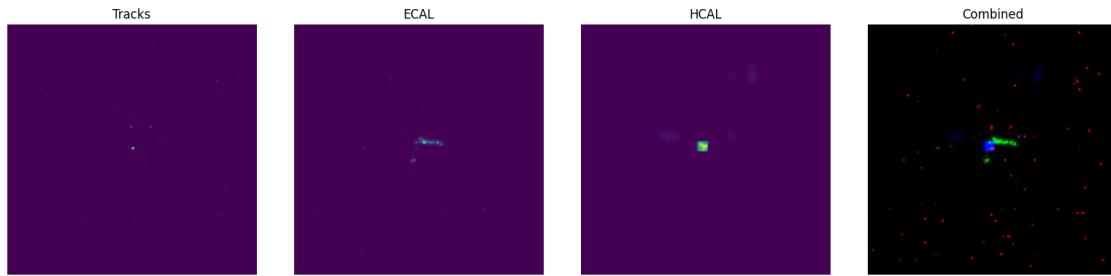


Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).

Sample #4



Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for integers).



epoch: 226

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012364052162738517

epoch: 227

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.0001236399327404797

epoch: 228

100% | 625/625 [06:55<00:00, 1.50it/s]

train_loss: 0.0001236235103220679

epoch: 229

100% | 625/625 [06:54<00:00, 1.51it/s]

train_loss: 0.00012361624261830002

epoch: 230

88% | 550/625 [06:19<00:55, 1.35it/s]

[]:

[]: