```
for i,train1 in enumerate(train1s):
    pickle, xx_train = picker(xx,*train1)
    x_train = x_test[pickle]
    x_train = x_train[:1]

    y_test = np.abs(x_train - x_test)
    outs[i] = 100*eval_loss(x_test,y_test,norm=norm2)/eval_loss(x_test,0*x_test,norm=norm2)

outs = np.array(outs)
```

```
theory_1st = np.loadtxt("data/theory_1st.txt")
theory_2nd = np.loadtxt("data/theory_2nd.txt")

fig, axs = plt.subplots(ncols=3,figsize=(12,5))
for i,train1 in enumerate(train1s):
    ax = axs[i]
    out = outs[i]
    ax.plot(xx,out,".--",label="loss")
    ax.set_ylabel("loss (%)")
    ax.set_xlabel("$J_\perp/J_{{||}}$")
    ax.fill_between(*[train1],out.min(),out.max(),alpha=0.3,color="cyan", label="training")
    ax.legend()
    ax.plot([theory_1st[6,1]]*2,[50,100],"--",color="grey")
    ax.plot([theory_2nd[3,1]]*2,[50,100],"--",color="grey")
    plt.tight_layout()

plt.tight_layout()
```