

```

In [1]: import torch
import numpy as np
from torch.autograd import Variable
import time

#Call model of layers and its forward step
from Forward_with_Layer_Setting import Net

device = torch.device("cuda:0" if torch.cuda.is_available() else "cpu")

#Call training functions of Loss functions
from NSpde_loss import lossNSpde
from BoundaryLoss import lossBdry
from InitialConditionLoss import lossIC

def create_network(IC_Only_Train):

    net = Net()
    net = net.to(device)

    #Set final times for running training
    time_slices = np.array([.1, .2, .3, .4, .5, .6, .7, .8, .9, 1]) #

    #Load Training Points
    x_domain, y_domain, t_zero, x_Bdry, y_Bdry, x_l_Bdry, x_u_Bdry, y_l_Bdry, y_u_Bdry = twoDimTrainPts(ne

    start = time.time()

    #Start Training only on IC
    if IC_Only_Train == True:
        print('Training Only on the Initial Condition')
        Create_IC_Parameters(x_domain, y_domain, t_zero, 25000, 10**-3, 'IC_Only.pt', record_loss = 100, p
        IC_Done = time.time()
        print('IC Time:\t', IC_Done-start)

    return 0

```

```

time_vec = [0, 0, 0, 0]

#attempt to load IC if it exists
try:
    net.load_state_dict(torch.load("IC_Only.pt"))
except:
    pass

global epsilon #used to track loss
epsilon = []

print('Training PDE')

for i in range(4):
    #Set loop to optimize in progressively smaller learning rates
    if i == 0:
        #First loop uses progressively increasing time intervals
        print('Executing Pass 1')
        iterations = 20000
        learning_rate = 5 * 10**-3
    elif i == 1:
        print('Executing Pass 2')
        #time_slices = time_slices[-1]
        iterations = 2 #0000
        learning_rate = 10**-3
    elif i == 2:
        print('Executing Pass 3')
        iterations = 2 #0000
        learning_rate = 5 * 10**-6
    elif i == 3:
        print('Executing Pass 4')
        iterations = 2 #0000
        learning_rate = 10**-6

    training_loop(net, x_domain, y_domain, t_zero, x_Bdry, y_Bdry, x_l_Bdry, x_u_Bdry,
                  y_l_Bdry, y_u_Bdry, time_slices, iterations, learning_rate, IC_coefficient = 1, reco
    torch.save(net.state_dict(), f"NNlayers_Bubble_{i}.pt")
    np.savetxt('epsilon.txt', epsilon)
    time_vec[i] = time.time()

np.savetxt('epsilon.txt', epsilon)

```

```

end = time.time()

print("Total Time:\t", end-start, '\nPass 1 Time:\t', time_vec[0]-start, '\nPass 2 Time:\t', time_vec[1]-start)

def twoDimTrainPts(net, Domain_collocation, Bdry_collocation):
    #Set of all the recorded xy variables as base data for chasing during training

    # Domain boundary in the range [0, 1]x[0, 2] and time in [0, 1].
    x_l = net.x1_l
    x_u = net.x1_u
    y_l = net.x2_l
    y_u = net.x2_u

    #time starts at lower bound 0, ends at upper bound updated in slices
    t_l = 0

    #Pick IC/NSpde Condition Training Random Points in Numpy
    x_domain = np.random.uniform(low=x_l, high=x_u, size=(Domain_collocation, 1))
    y_domain = np.random.uniform(low=y_l, high=y_u, size=(Domain_collocation, 1))

    #Move to pytorch tensors
    x_domain = Variable(torch.from_numpy(x_domain).float(), requires_grad=True).to(device)
    y_domain = Variable(torch.from_numpy(y_domain).float(), requires_grad=True).to(device)

    #Pick IC Training t starting points to make tensor
    t_zero = Variable(torch.zeros_like(x_domain), requires_grad=True).to(device)

    #Pick BC Training Random Points in Numpy
    x_Bdry = np.random.uniform(low=x_l, high=x_u, size=(Bdry_collocation,1))
    y_Bdry = np.random.uniform(low=y_l, high=y_u, size=(Bdry_collocation,1))

    #Move to pytorch tensors
    x_Bdry = Variable(torch.from_numpy(x_Bdry).float(), requires_grad=True).to(device)
    y_Bdry = Variable(torch.from_numpy(y_Bdry).float(), requires_grad=True).to(device)

    ##Pick pts to make tensor for No-Slip Boundary Condition
    x_l_Bdry = Variable(x_l * torch.ones_like(x_Bdry), requires_grad=True).to(device)
    x_u_Bdry = Variable(x_u * torch.ones_like(x_Bdry), requires_grad=True).to(device)
    y_l_Bdry = Variable(y_l * torch.ones_like(x_Bdry), requires_grad=True).to(device)
    y_u_Bdry = Variable(y_u * torch.ones_like(x_Bdry), requires_grad=True).to(device)

```

```

    return x_domain, y_domain, t_zero, x_Bdry, y_Bdry, x_l_Bdry, x_u_Bdry, y_l_Bdry, y_u_Bdry

def tsliceTrainPts(net, Domain_collocation, Bdry_collocation, final_time):
    #Set of all the recorded t variable as base data for chasing during training

    #time starts at lower bound 0, ends at upper bound updated in slices
    t_l = net.t_l

    #Pick IC/NSpde Condition Training Random Points in Numpy
    t_domain = np.random.uniform(low=t_l, high=final_time, size=(Domain_collocation, 1))

    #Move to pytorch tensors
    t_domain = Variable(torch.from_numpy(t_domain).float(), requires_grad=True).to(device)

    #Pick IC Training t starting points to make tensor
    t_zero = Variable(torch.zeros_like(t_domain), requires_grad=True).to(device)

    #Pick BC Training Random Points in Numpy
    t_Bdry = np.random.uniform(low=t_l, high=final_time, size=(Bdry_collocation, 1))

    #Move to pytorch tensors
    t_Bdry = Variable(torch.from_numpy(t_Bdry).float(), requires_grad=True).to(device)

    return t_domain, t_Bdry

def get_lr(optimizer):
    for param_group in optimizer.param_groups:
        return param_group['lr']

def Create_IC_Parameters(x_domain, y_domain, t_zero, iterations, learning_rate, filename, record_loss, print_loss):
    ICnet = Net().to(device)

    IC_Only_training(ICnet, x_domain, y_domain, t_zero, iterations, learning_rate, record_loss, print_loss)

    torch.save(ICnet.state_dict(), filename)

def IC_Only_training(net, x_domain, y_domain, t_zero, iterations, learning_rate, record_loss, print_loss):
    device = torch.device("cuda:0" if torch.cuda.is_available() else "cpu")

```

```

#learning rate update
for g in net.optimizer.param_groups:
    g['lr'] = learning_rate

#training loop
epsilon_IC = [] #placeholder to track decreasing loss
for epoch in range(1, iterations+1):

    # Resetting gradients to zero
    net.optimizer.zero_grad()

    #Loss based on Initial Condition
    loss = lossIC(net, x_domain, y_domain, t_zero)

    loss.backward()

    # Gradient Norm Clipping
    torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=2, error_if_nonfinite=True)

    #Gradient Value Clipping
    #nn.utils.clip_grad_value_(net.parameters(), clip_value=1.0)

    net.optimizer.step()

    #Print Loss every 1000 Epochs
    with torch.autograd.no_grad():

        if epoch%record_loss == 0:
            epsilon_IC = np.append(epsilon_IC, loss.cpu().detach().numpy())
        if epoch%print_loss == 0:
            print("Iteration:", epoch, "Initial Condition Loss:", loss.data)

    np.savetxt('epsilon_IC.txt', epsilon_IC)

def training_loop(net, x_domain, y_domain, t_zero, x_Bdry, y_Bdry, x_l_Bdry, x_u_Bdry, y_l_Bdry, y_u_Bdry,
global epsilon
device = torch.device("cuda:0" if torch.cuda.is_available() else "cpu")

#learning rate update
for g in net.optimizer.param_groups:

```

```

g['lr'] = learning_rate

for final_time in time_slices:

    with torch.autograd.no_grad():
        print("Current Final Time:", final_time, "Current Learning Rate: ", get_lr(net.optimizer))

    indicator = False
    reset_regularization = 1000

    #Iterate over these points

    t_domain, t_Bdry = tsliceTrainPts(net, Domain_collocation = int(1000), Bdry_collocation = int(100))
    for epoch in range(1, iterations+1):
        # Loss calculation based on partial differential equation (PDE)

        if epoch%reset_regularization == 0:
            indicator = False

        if epoch%reset_regularization != 0: #To detect error on forward/Backward, add hashtag on this \
            #with torch.autograd.detect_anomaly(): #use this line alternatively by deleting hashtag.

            ###Training steps
            # Resetting gradients to zero
            net.optimizer.zero_grad()

            #Loss based on Initial Condition
            mse_IC = lossIC(net, x_domain, y_domain, t_zero)
            # Gradient Norm Clipping
            torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_

            #Loss based on Boundary Condition (Containing No-Slip and Free-slip)
            mse_BC_u, mse_BC_phi, mse_BC_mu = lossBdry(net, x_Bdry, y_Bdry, t_Bdry, x_l_Bdry, x_u_Bdry)
            mse_BC = mse_BC_u+ mse_BC_phi+ mse_BC_mu
            # Gradient Norm Clipping
            torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_

            #Loss based on PDE
            mse_NS, mse_NSdiv = lossNSpde(net, x_domain, y_domain, t_domain)
            # Gradient Norm Clipping
            torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_

```

```

    if indicator == False:
        indicator = True
        IC_regular = mse_IC.detach()
        BC_regular = mse_BC.detach()
        pde_regular = mse_NS.detach()
        pdediv_regular = mse_NSdiv.detach()

    raw_loss = IC_coefficient * mse_IC + mse_BC + mse_NS + mse_NSdiv

    mse_IC = mse_IC #/IC_regular
    mse_BC = mse_BC #/BC_regular
    mse_NS = mse_NS #/pde_regular
    mse_NSdiv = mse_NSdiv #/pdediv_regular

    #Combine all Loss functions
    loss = 5*mse_BC + 10**3 *mse_IC + 10 * mse_NS + 10 * mse_NSdiv #IC_coefficient *
    # Gradient Norm Clipping
    torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_nonf

    loss.backward()
    # Gradient Norm Clipping
    torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_nonf

    #Gradient Value Clipping
    #nn.utils.clip_grad_value_(net.parameters(), clip_value=1.0)
    net.optimizer.step()

    #Print Loss every 1000 Epochs
    with torch.autograd.no_grad():
        if epoch%record_loss == 0:
            epsilon = np.append(epsilon, raw_loss.cpu().detach().numpy())
        if epoch%print_loss == 0:
            print("Iteration:", epoch, "\tTotal Loss:", loss.data)
            print("IC Loss: ", mse_IC.data, "\tu BC Loss: ", mse_BC_u.data, "\tphi BC Loss: ", mse

```

```

create_network(True)
create_network(False)

```

Training Only on the Initial Condition

Iteration: 1000 Initial Condition Loss: tensor(0.0551)
Iteration: 2000 Initial Condition Loss: tensor(0.0292)
Iteration: 3000 Initial Condition Loss: tensor(0.0196)
Iteration: 4000 Initial Condition Loss: tensor(0.0159)
Iteration: 5000 Initial Condition Loss: tensor(0.0137)
Iteration: 6000 Initial Condition Loss: tensor(0.0130)
Iteration: 7000 Initial Condition Loss: tensor(0.0128)
Iteration: 8000 Initial Condition Loss: tensor(0.0124)
Iteration: 9000 Initial Condition Loss: tensor(0.0130)
Iteration: 10000 Initial Condition Loss: tensor(0.0117)
Iteration: 11000 Initial Condition Loss: tensor(0.0125)
Iteration: 12000 Initial Condition Loss: tensor(0.0110)
Iteration: 13000 Initial Condition Loss: tensor(0.0112)
Iteration: 14000 Initial Condition Loss: tensor(0.0111)
Iteration: 15000 Initial Condition Loss: tensor(0.0108)
Iteration: 16000 Initial Condition Loss: tensor(0.0106)
Iteration: 17000 Initial Condition Loss: tensor(0.0106)
Iteration: 18000 Initial Condition Loss: tensor(0.0107)
Iteration: 19000 Initial Condition Loss: tensor(0.0104)
Iteration: 20000 Initial Condition Loss: tensor(0.0105)
Iteration: 21000 Initial Condition Loss: tensor(0.0100)
Iteration: 22000 Initial Condition Loss: tensor(0.0104)
Iteration: 23000 Initial Condition Loss: tensor(0.0095)
Iteration: 24000 Initial Condition Loss: tensor(0.0093)
Iteration: 25000 Initial Condition Loss: tensor(0.0092)
IC Time: 91.44185614585876

Training PDE

Executing Pass 1

Current Final Time: 0.1 Current Learning Rate: 0.005

Iteration: 200 Total Loss: tensor(14433.4180)

IC Loss: tensor(11.9649) u BC Loss: tensor(10.7425) phi BC Loss: tensor(27.9892) mu BC Loss:
tensor(1.0671) NS PDE Loss: tensor(226.8474) NS Div Free Loss: tensor(0.1083)

Iteration: 400 Total Loss: tensor(5730.6235)

IC Loss: tensor(5.1677) u BC Loss: tensor(5.3540) phi BC Loss: tensor(10.9234) mu BC Loss:
tensor(1.4131) NS PDE Loss: tensor(47.3329) NS Div Free Loss: tensor(0.1107)

Iteration: 600 Total Loss: tensor(2150.1128)

IC Loss: tensor(1.4009) u BC Loss: tensor(2.2968) phi BC Loss: tensor(8.5645) mu BC Loss:
tensor(1.9456) NS PDE Loss: tensor(68.4262) NS Div Free Loss: tensor(0.0901)

Iteration: 800 Total Loss: tensor(1437.9192)

IC Loss: tensor(0.8012) u BC Loss: tensor(0.7811) phi BC Loss: tensor(6.5555) mu BC Loss:
tensor(3.1532) NS PDE Loss: tensor(58.3705) NS Div Free Loss: tensor(0.0537)

Iteration: 1000	Total Loss: tensor(819.1157)		
IC Loss: tensor(0.6068)	u BC Loss: tensor(0.2320)	phi BC Loss: tensor(3.6409)	mu BC Loss: tensor(3.5139)
NS PDE Loss: tensor(17.5122)	NS Div Free Loss: tensor(0.0259)		
Iteration: 1200	Total Loss: tensor(174.5538)		
IC Loss: tensor(0.0516)	u BC Loss: tensor(0.0753)	phi BC Loss: tensor(6.5166)	mu BC Loss: tensor(2.9068)
NS PDE Loss: tensor(7.5288)	NS Div Free Loss: tensor(0.0141)		
Iteration: 1400	Total Loss: tensor(111.4592)		
IC Loss: tensor(0.0543)	u BC Loss: tensor(0.0585)	phi BC Loss: tensor(2.0013)	mu BC Loss: tensor(1.6909)
NS PDE Loss: tensor(3.8254)	NS Div Free Loss: tensor(0.0104)		
Iteration: 1600	Total Loss: tensor(82.0715)		
IC Loss: tensor(0.0177)	u BC Loss: tensor(0.0560)	phi BC Loss: tensor(0.9231)	mu BC Loss: tensor(0.9606)
NS PDE Loss: tensor(5.4543)	NS Div Free Loss: tensor(0.0086)		
Iteration: 1800	Total Loss: tensor(77.1092)		
IC Loss: tensor(0.0150)	u BC Loss: tensor(0.0435)	phi BC Loss: tensor(0.6951)	mu BC Loss: tensor(0.6428)
NS PDE Loss: tensor(5.5092)	NS Div Free Loss: tensor(0.0067)		
Iteration: 2000	Total Loss: tensor(83.2701)		
IC Loss: tensor(0.0136)	u BC Loss: tensor(0.0377)	phi BC Loss: tensor(0.5623)	mu BC Loss: tensor(0.4729)
NS PDE Loss: tensor(6.4274)	NS Div Free Loss: tensor(0.0054)		
Iteration: 2200	Total Loss: tensor(261.7852)		
IC Loss: tensor(0.0133)	u BC Loss: tensor(0.0211)	phi BC Loss: tensor(0.5119)	mu BC Loss: tensor(0.4707)
NS PDE Loss: tensor(24.3433)	NS Div Free Loss: tensor(0.0029)		
Iteration: 2400	Total Loss: tensor(71.9214)		
IC Loss: tensor(0.0379)	u BC Loss: tensor(0.0244)	phi BC Loss: tensor(1.0260)	mu BC Loss: tensor(0.4043)
NS PDE Loss: tensor(2.6685)	NS Div Free Loss: tensor(0.0024)		
Iteration: 2600	Total Loss: tensor(78.3166)		
IC Loss: tensor(0.0137)	u BC Loss: tensor(0.0234)	phi BC Loss: tensor(0.5615)	mu BC Loss: tensor(0.2869)
NS PDE Loss: tensor(6.0239)	NS Div Free Loss: tensor(0.0023)		
Iteration: 2800	Total Loss: tensor(54.7878)		
IC Loss: tensor(0.0125)	u BC Loss: tensor(0.0212)	phi BC Loss: tensor(0.4021)	mu BC Loss: tensor(0.2183)
NS PDE Loss: tensor(3.9058)	NS Div Free Loss: tensor(0.0021)		
Iteration: 3000	Total Loss: tensor(55.6202)		
IC Loss: tensor(0.0117)	u BC Loss: tensor(0.0187)	phi BC Loss: tensor(0.3040)	mu BC Loss: tensor(0.1700)
NS PDE Loss: tensor(4.1490)	NS Div Free Loss: tensor(0.0017)		
Iteration: 3200	Total Loss: tensor(80.6170)		
IC Loss: tensor(0.0187)	u BC Loss: tensor(0.0138)	phi BC Loss: tensor(0.6416)	mu BC Loss: tensor(0.1454)
NS PDE Loss: tensor(5.7885)	NS Div Free Loss: tensor(0.0007)		
Iteration: 3400	Total Loss: tensor(62.3827)		
IC Loss: tensor(0.0308)	u BC Loss: tensor(0.0175)	phi BC Loss: tensor(0.2050)	mu BC Loss: tensor(0.1014)
NS PDE Loss: tensor(2.9916)	NS Div Free Loss: tensor(0.0007)		
Iteration: 3600	Total Loss: tensor(82.6081)		
IC Loss: tensor(0.0128)	u BC Loss: tensor(0.0157)	phi BC Loss: tensor(0.1597)	mu BC Loss: tensor(0.0746)
NS PDE Loss: tensor(6.8538)	NS Div Free Loss: tensor(0.0006)		

```

Iteration: 3800      Total Loss: tensor(55.0907)
IC Loss:  tensor(0.0118)      u BC Loss:  tensor(0.0160)      phi BC Loss:  tensor(0.1213)      mu BC Loss:
tensor(0.0547) NS PDE Loss:  tensor(4.2337)      NS Div Free Loss:  tensor(0.0005)
Iteration: 4000      Total Loss: tensor(88.3942)
IC Loss:  tensor(0.0113)      u BC Loss:  tensor(0.0158)      phi BC Loss:  tensor(0.0938)      mu BC Loss:
tensor(0.0412) NS PDE Loss:  tensor(7.6337)      NS Div Free Loss:  tensor(0.0004)
Iteration: 4200      Total Loss: tensor(191.1147)
IC Loss:  tensor(0.0135)      u BC Loss:  tensor(0.0118)      phi BC Loss:  tensor(0.1142)      mu BC Loss:
tensor(0.0351) NS PDE Loss:  tensor(17.6769)      NS Div Free Loss:  tensor(8.5774e-05)
Iteration: 4400      Total Loss: tensor(268.7771)
IC Loss:  tensor(0.0124)      u BC Loss:  tensor(0.0128)      phi BC Loss:  tensor(0.2002)      mu BC Loss:
tensor(0.0310) NS PDE Loss:  tensor(25.5133)      NS Div Free Loss:  tensor(8.2067e-05)
Iteration: 4600      Total Loss: tensor(233.3675)
IC Loss:  tensor(0.0108)      u BC Loss:  tensor(0.0113)      phi BC Loss:  tensor(0.1073)      mu BC Loss:
tensor(0.0287) NS PDE Loss:  tensor(22.1801)      NS Div Free Loss:  tensor(8.4097e-06)
Iteration: 4800      Total Loss: tensor(89.6322)
IC Loss:  tensor(0.0104)      u BC Loss:  tensor(0.0120)      phi BC Loss:  tensor(0.0768)      mu BC Loss:
tensor(0.0253) NS PDE Loss:  tensor(7.8694)      NS Div Free Loss:  tensor(2.5541e-05)
Iteration: 5000      Total Loss: tensor(423.7054)
IC Loss:  tensor(0.0105)      u BC Loss:  tensor(0.0111)      phi BC Loss:  tensor(0.0722)      mu BC Loss:
tensor(0.0236) NS PDE Loss:  tensor(41.2664)      NS Div Free Loss:  tensor(3.2630e-06)
Iteration: 5200      Total Loss: tensor(322.7068)
IC Loss:  tensor(0.0087)      u BC Loss:  tensor(0.0110)      phi BC Loss:  tensor(0.0606)      mu BC Loss:
tensor(0.0237) NS PDE Loss:  tensor(31.3565)      NS Div Free Loss:  tensor(9.1635e-06)
Iteration: 5400      Total Loss: tensor(94.2877)
IC Loss:  tensor(0.0085)      u BC Loss:  tensor(0.0104)      phi BC Loss:  tensor(0.0503)      mu BC Loss:
tensor(0.0240) NS PDE Loss:  tensor(8.5342)      NS Div Free Loss:  tensor(4.0704e-06)
Iteration: 5600      Total Loss: tensor(72.5247)
IC Loss:  tensor(0.0083)      u BC Loss:  tensor(0.0103)      phi BC Loss:  tensor(0.0433)      mu BC Loss:
tensor(0.0234) NS PDE Loss:  tensor(6.3853)      NS Div Free Loss:  tensor(3.6447e-06)
Iteration: 5800      Total Loss: tensor(275.2417)
IC Loss:  tensor(0.0095)      u BC Loss:  tensor(0.0090)      phi BC Loss:  tensor(0.0363)      mu BC Loss:
tensor(0.0253) NS PDE Loss:  tensor(26.5369)      NS Div Free Loss:  tensor(0.0007)
Iteration: 6000      Total Loss: tensor(44.6625)
IC Loss:  tensor(0.0094)      u BC Loss:  tensor(0.0154)      phi BC Loss:  tensor(0.0359)      mu BC Loss:
tensor(0.0206) NS PDE Loss:  tensor(3.4939)      NS Div Free Loss:  tensor(5.9780e-05)
Iteration: 6200      Total Loss: tensor(65.8607)
IC Loss:  tensor(0.0131)      u BC Loss:  tensor(0.0103)      phi BC Loss:  tensor(5.2752e-10)      mu
BC Loss:  tensor(0.0204)      NS PDE Loss:  tensor(5.2651)      NS Div Free Loss:  tensor(2.9004e-05)
Iteration: 6400      Total Loss: tensor(167.7296)
IC Loss:  tensor(0.0113)      u BC Loss:  tensor(0.0111)      phi BC Loss:  tensor(4.7384e-08)      mu
BC Loss:  tensor(0.0227)      NS PDE Loss:  tensor(15.6279)      NS Div Free Loss:  tensor(6.4226e-06)

```

```

Iteration: 6600      Total Loss: tensor(129.3422)
IC Loss:  tensor(0.0102)      u BC Loss:  tensor(0.0124)      phi BC Loss:  tensor(0.0010)      mu BC Loss:
tensor(0.0222) NS PDE Loss:  tensor(11.8986)  NS Div Free Loss:  tensor(1.2950e-05)
Iteration: 6800      Total Loss: tensor(14.8710)
IC Loss:  tensor(0.0096)      u BC Loss:  tensor(0.0114)      phi BC Loss:  tensor(0.0026)      mu BC Loss:
tensor(0.0187) NS PDE Loss:  tensor(0.5142)    NS Div Free Loss:  tensor(0.0002)
Iteration: 7000      Total Loss: tensor(100.2936)
IC Loss:  tensor(0.0425)      u BC Loss:  tensor(0.0129)      phi BC Loss:  tensor(0.0340)      mu BC Loss:
tensor(0.0157) NS PDE Loss:  tensor(5.7498)    NS Div Free Loss:  tensor(6.1792e-05)
Iteration: 7200      Total Loss: tensor(89.4214)
IC Loss:  tensor(0.0091)      u BC Loss:  tensor(0.0109)      phi BC Loss:  tensor(0.0019)      mu BC Loss:
tensor(0.0190) NS PDE Loss:  tensor(8.0193)    NS Div Free Loss:  tensor(0.0002)
Iteration: 7400      Total Loss: tensor(73.7708)
IC Loss:  tensor(0.0084)      u BC Loss:  tensor(0.0119)      phi BC Loss:  tensor(0.0023)      mu BC Loss:
tensor(0.0183) NS PDE Loss:  tensor(6.5228)    NS Div Free Loss:  tensor(0.0002)
Iteration: 7600      Total Loss: tensor(66.5798)
IC Loss:  tensor(0.0081)      u BC Loss:  tensor(0.0125)      phi BC Loss:  tensor(0.0009)      mu BC Loss:
tensor(0.0180) NS PDE Loss:  tensor(5.8296)    NS Div Free Loss:  tensor(0.0001)
Iteration: 7800      Total Loss: tensor(264.3129)
IC Loss:  tensor(0.0088)      u BC Loss:  tensor(0.0103)      phi BC Loss:  tensor(0.0037)      mu BC Loss:
tensor(0.0184) NS PDE Loss:  tensor(25.5304)   NS Div Free Loss:  tensor(0.0003)
Iteration: 8000      Total Loss: tensor(90.9084)
IC Loss:  tensor(0.0076)      u BC Loss:  tensor(0.0123)      phi BC Loss:  tensor(0.0006)      mu BC Loss:
tensor(0.0187) NS PDE Loss:  tensor(8.3152)    NS Div Free Loss:  tensor(5.9011e-05)
Iteration: 8200      Total Loss: tensor(169.8857)
IC Loss:  tensor(0.0083)      u BC Loss:  tensor(0.0084)      phi BC Loss:  tensor(0.0019)      mu BC Loss:
tensor(0.0217) NS PDE Loss:  tensor(16.1389)   NS Div Free Loss:  tensor(0.0003)
Iteration: 8400      Total Loss: tensor(74.1374)
IC Loss:  tensor(0.0281)      u BC Loss:  tensor(0.0130)      phi BC Loss:  tensor(0.0004)      mu BC Loss:
tensor(0.0185) NS PDE Loss:  tensor(4.5841)    NS Div Free Loss:  tensor(0.0001)
Iteration: 8600      Total Loss: tensor(22.8355)
IC Loss:  tensor(0.0073)      u BC Loss:  tensor(0.0131)      phi BC Loss:  tensor(1.4268e-05)      mu
BC Loss:  tensor(0.0192)      NS PDE Loss:  tensor(1.5346)    NS Div Free Loss:  tensor(0.0001)
Iteration: 8800      Total Loss: tensor(12.3941)
IC Loss:  tensor(0.0072)      u BC Loss:  tensor(0.0129)      phi BC Loss:  tensor(0.0009)      mu BC Loss:
tensor(0.0216) NS PDE Loss:  tensor(0.5039)    NS Div Free Loss:  tensor(0.0002)
Iteration: 9000      Total Loss: tensor(91.2240)
IC Loss:  tensor(0.0069)      u BC Loss:  tensor(0.0126)      phi BC Loss:  tensor(0.0011)      mu BC Loss:
tensor(0.0204) NS PDE Loss:  tensor(8.4110)    NS Div Free Loss:  tensor(0.0001)
Iteration: 9200      Total Loss: tensor(237.7218)
IC Loss:  tensor(0.0073)      u BC Loss:  tensor(0.0128)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.0206) NS PDE Loss:  tensor(23.0263)   NS Div Free Loss:  tensor(9.9586e-05)

```

```

Iteration: 9400      Total Loss: tensor(56.2765)
IC Loss:  tensor(0.0068)      u BC Loss:  tensor(0.0113)      phi BC Loss:  tensor(0.0004)      mu BC Loss:
tensor(0.0207) NS PDE Loss:  tensor(4.9313)      NS Div Free Loss:  tensor(4.4794e-05)
Iteration: 9600      Total Loss: tensor(59.0356)
IC Loss:  tensor(0.0067)      u BC Loss:  tensor(0.0120)      phi BC Loss:  tensor(9.6785e-05)      mu
BC Loss:  tensor(0.0187)      NS PDE Loss:  tensor(5.2218)      NS Div Free Loss:  tensor(2.5362e-05)
Iteration: 9800      Total Loss: tensor(57.0926)
IC Loss:  tensor(0.0080)      u BC Loss:  tensor(0.0128)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.0165) NS PDE Loss:  tensor(4.8942)      NS Div Free Loss:  tensor(1.1778e-05)
Iteration: 10000     Total Loss: tensor(1499.8378)
IC Loss:  tensor(0.0078)      u BC Loss:  tensor(0.0072)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.0146) NS PDE Loss:  tensor(149.1909) NS Div Free Loss:  tensor(0.0002)
Iteration: 10200     Total Loss: tensor(35.4897)
IC Loss:  tensor(0.0067)      u BC Loss:  tensor(0.0113)      phi BC Loss:  tensor(1.6128e-05)      mu
BC Loss:  tensor(0.0188)      NS PDE Loss:  tensor(2.8638)      NS Div Free Loss:  tensor(0.0002)
Iteration: 10400     Total Loss: tensor(39.7300)
IC Loss:  tensor(0.0065)      u BC Loss:  tensor(0.0124)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.0177) NS PDE Loss:  tensor(3.3078)      NS Div Free Loss:  tensor(0.0002)
Iteration: 10600     Total Loss: tensor(81.7509)
IC Loss:  tensor(0.0076)      u BC Loss:  tensor(0.0122)      phi BC Loss:  tensor(0.0030)      mu BC Loss:
tensor(0.0167) NS PDE Loss:  tensor(7.3968)      NS Div Free Loss:  tensor(9.6933e-05)
Iteration: 10800     Total Loss: tensor(65.2272)
IC Loss:  tensor(0.0064)      u BC Loss:  tensor(0.0123)      phi BC Loss:  tensor(1.0917e-05)      mu
BC Loss:  tensor(0.0165)      NS PDE Loss:  tensor(5.8671)      NS Div Free Loss:  tensor(2.4562e-05)
Iteration: 11000     Total Loss: tensor(42.5968)
IC Loss:  tensor(0.0063)      u BC Loss:  tensor(0.0124)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.0157) NS PDE Loss:  tensor(3.6109)      NS Div Free Loss:  tensor(2.1153e-05)
Iteration: 11200     Total Loss: tensor(67.9267)
IC Loss:  tensor(0.0072)      u BC Loss:  tensor(0.0071)      phi BC Loss:  tensor(4.4126e-05)      mu
BC Loss:  tensor(0.0261)      NS PDE Loss:  tensor(6.0520)      NS Div Free Loss:  tensor(4.4297e-05)
Iteration: 11400     Total Loss: tensor(70.5022)
IC Loss:  tensor(0.0073)      u BC Loss:  tensor(0.0068)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.0342) NS PDE Loss:  tensor(6.2989)      NS Div Free Loss:  tensor(4.2322e-05)
Iteration: 11600     Total Loss: tensor(71.4184)
IC Loss:  tensor(0.0071)      u BC Loss:  tensor(0.0073)      phi BC Loss:  tensor(7.3707e-05)      mu
BC Loss:  tensor(0.0352)      NS PDE Loss:  tensor(6.4098)      NS Div Free Loss:  tensor(5.6687e-05)
Iteration: 11800     Total Loss: tensor(106.5476)
IC Loss:  tensor(0.0092)      u BC Loss:  tensor(0.0102)      phi BC Loss:  tensor(2.2024e-08)      mu
BC Loss:  tensor(0.0191)      NS PDE Loss:  tensor(9.7219)      NS Div Free Loss:  tensor(0.0003)
Iteration: 12000     Total Loss: tensor(48.6456)
IC Loss:  tensor(0.0070)      u BC Loss:  tensor(0.0115)      phi BC Loss:  tensor(3.7588e-09)      mu
BC Loss:  tensor(0.0202)      NS PDE Loss:  tensor(4.1497)      NS Div Free Loss:  tensor(0.0002)

```

Iteration: 12200	Total Loss: tensor(139.6765)		
IC Loss: tensor(0.0085)	u BC Loss: tensor(0.0091)	phi BC Loss: tensor(0.0013)	mu BC Loss: tensor(0.0296)
NS PDE Loss: tensor(13.0961)	NS Div Free Loss: tensor(0.0003)		
Iteration: 12400	Total Loss: tensor(69.4554)		
IC Loss: tensor(0.0075)	u BC Loss: tensor(0.0096)	phi BC Loss: tensor(2.9713e-05)	mu
BC Loss: tensor(0.0342)	NS PDE Loss: tensor(6.1778)	NS Div Free Loss: tensor(0.0003)	
Iteration: 12600	Total Loss: tensor(203.7513)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(0.0097)	phi BC Loss: tensor(4.4634e-06)	mu
BC Loss: tensor(0.0360)	NS PDE Loss: tensor(19.6151)	NS Div Free Loss: tensor(0.0004)	
Iteration: 12800	Total Loss: tensor(74.3623)		
IC Loss: tensor(0.0075)	u BC Loss: tensor(0.0104)	phi BC Loss: tensor(1.3218e-06)	mu
BC Loss: tensor(0.0381)	NS PDE Loss: tensor(6.6601)	NS Div Free Loss: tensor(0.0003)	
Iteration: 13000	Total Loss: tensor(111.5122)		
IC Loss: tensor(0.0078)	u BC Loss: tensor(0.0078)	phi BC Loss: tensor(2.4689e-06)	mu
BC Loss: tensor(0.0387)	NS PDE Loss: tensor(10.3479)	NS Div Free Loss: tensor(0.0002)	
Iteration: 13200	Total Loss: tensor(64.0183)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0109)	phi BC Loss: tensor(5.1004e-07)	mu
BC Loss: tensor(0.0312)	NS PDE Loss: tensor(5.7264)	NS Div Free Loss: tensor(5.2418e-05)	
Iteration: 13400	Total Loss: tensor(69.9227)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.0116)	phi BC Loss: tensor(3.0644e-07)	mu
BC Loss: tensor(0.0285)	NS PDE Loss: tensor(6.3302)	NS Div Free Loss: tensor(1.8756e-05)	
Iteration: 13600	Total Loss: tensor(33.0904)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0122)	phi BC Loss: tensor(2.1745e-07)	mu
BC Loss: tensor(0.0249)	NS PDE Loss: tensor(2.6442)	NS Div Free Loss: tensor(1.3666e-05)	
Iteration: 13800	Total Loss: tensor(30.1380)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.0125)	phi BC Loss: tensor(2.0915e-07)	mu
BC Loss: tensor(0.0216)	NS PDE Loss: tensor(2.3668)	NS Div Free Loss: tensor(1.1385e-05)	
Iteration: 14000	Total Loss: tensor(58.3189)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.0127)	phi BC Loss: tensor(2.1140e-07)	mu
BC Loss: tensor(0.0194)	NS PDE Loss: tensor(5.1948)	NS Div Free Loss: tensor(9.2401e-06)	
Iteration: 14200	Total Loss: tensor(30.7701)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.0132)	phi BC Loss: tensor(3.2031e-07)	mu
BC Loss: tensor(0.0175)	NS PDE Loss: tensor(2.4634)	NS Div Free Loss: tensor(7.3592e-06)	
Iteration: 14400	Total Loss: tensor(38.6349)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0122)	phi BC Loss: tensor(4.1421e-07)	mu
BC Loss: tensor(0.0200)	NS PDE Loss: tensor(3.2346)	NS Div Free Loss: tensor(8.1278e-05)	
Iteration: 14600	Total Loss: tensor(7.8768)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0113)	phi BC Loss: tensor(2.6731e-07)	mu
BC Loss: tensor(0.0181)	NS PDE Loss: tensor(0.1267)	NS Div Free Loss: tensor(0.0001)	
Iteration: 14800	Total Loss: tensor(340.6834)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.0140)	phi BC Loss: tensor(4.3547e-08)	mu
BC Loss: tensor(0.0253)	NS PDE Loss: tensor(33.4096)	NS Div Free Loss: tensor(2.5267e-05)	

Iteration: 15000	Total Loss: tensor(134.7053)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0107)	phi BC Loss: tensor(9.3600e-08)	mu
BC Loss: tensor(0.0197)	NS PDE Loss: tensor(12.8498)	NS Div Free Loss: tensor(8.0151e-05)	
Iteration: 15200	Total Loss: tensor(33.2809)		
IC Loss: tensor(0.0081)	u BC Loss: tensor(0.0084)	phi BC Loss: tensor(6.2235e-09)	mu
BC Loss: tensor(0.0183)	NS PDE Loss: tensor(2.5047)	NS Div Free Loss: tensor(0.0003)	
Iteration: 15400	Total Loss: tensor(64.4611)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.0119)	phi BC Loss: tensor(3.9058e-07)	mu
BC Loss: tensor(0.0183)	NS PDE Loss: tensor(5.8574)	NS Div Free Loss: tensor(5.6465e-05)	
Iteration: 15600	Total Loss: tensor(55.4533)		
IC Loss: tensor(0.0058)	u BC Loss: tensor(0.0121)	phi BC Loss: tensor(8.9383e-07)	mu
BC Loss: tensor(0.0165)	NS PDE Loss: tensor(4.9516)	NS Div Free Loss: tensor(4.0441e-05)	
Iteration: 15800	Total Loss: tensor(22.2063)		
IC Loss: tensor(0.0070)	u BC Loss: tensor(0.0081)	phi BC Loss: tensor(8.7417e-06)	mu
BC Loss: tensor(0.0192)	NS PDE Loss: tensor(1.5048)	NS Div Free Loss: tensor(0.0004)	
Iteration: 16000	Total Loss: tensor(272.3987)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.0076)	phi BC Loss: tensor(2.6615e-06)	mu
BC Loss: tensor(0.0225)	NS PDE Loss: tensor(26.5080)	NS Div Free Loss: tensor(0.0005)	
Iteration: 16200	Total Loss: tensor(16.5134)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.0102)	phi BC Loss: tensor(7.1409e-06)	mu
BC Loss: tensor(0.0230)	NS PDE Loss: tensor(1.0025)	NS Div Free Loss: tensor(0.0002)	
Iteration: 16400	Total Loss: tensor(604.8253)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0086)	phi BC Loss: tensor(2.4335e-06)	mu
BC Loss: tensor(0.0232)	NS PDE Loss: tensor(59.8172)	NS Div Free Loss: tensor(0.0003)	
Iteration: 16600	Total Loss: tensor(248.5276)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0086)	phi BC Loss: tensor(6.3354e-05)	mu
BC Loss: tensor(0.0294)	NS PDE Loss: tensor(24.2201)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16800	Total Loss: tensor(110.4606)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0088)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.0323)	NS PDE Loss: tensor(10.4129)	NS Div Free Loss: tensor(6.5234e-05)	
Iteration: 17000	Total Loss: tensor(203.7794)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.0089)	phi BC Loss: tensor(4.1933e-05)	mu
BC Loss: tensor(0.0329)	NS PDE Loss: tensor(19.7563)	NS Div Free Loss: tensor(3.9155e-05)	
Iteration: 17200	Total Loss: tensor(217.8729)		
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.0087)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.0313)	NS PDE Loss: tensor(21.1738)	NS Div Free Loss: tensor(4.7714e-05)	
Iteration: 17400	Total Loss: tensor(234.8419)		
IC Loss: tensor(0.0091)	u BC Loss: tensor(0.0068)	phi BC Loss: tensor(1.8260e-05)	mu
BC Loss: tensor(0.0283)	NS PDE Loss: tensor(22.5551)	NS Div Free Loss: tensor(0.0004)	
Iteration: 17600	Total Loss: tensor(78.6560)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0100)	phi BC Loss: tensor(1.1558e-05)	mu
BC Loss: tensor(0.0321)	NS PDE Loss: tensor(7.2324)	NS Div Free Loss: tensor(0.0004)	

Iteration: 17800	Total Loss: tensor(55.5274)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.0116)	phi BC Loss: tensor(3.0938e-05)	mu
BC Loss: tensor(0.0319)	NS PDE Loss: tensor(4.9136)	NS Div Free Loss: tensor(0.0004)	
Iteration: 18000	Total Loss: tensor(37.4537)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.0124)	phi BC Loss: tensor(1.3072e-07)	mu
BC Loss: tensor(0.0311)	NS PDE Loss: tensor(3.1539)	NS Div Free Loss: tensor(0.0004)	
Iteration: 18200	Total Loss: tensor(23.8997)		
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.0129)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.0302)	NS PDE Loss: tensor(1.7763)	NS Div Free Loss: tensor(0.0004)	
Iteration: 18400	Total Loss: tensor(24.7461)		
IC Loss: tensor(0.0058)	u BC Loss: tensor(0.0108)	phi BC Loss: tensor(8.0290e-05)	mu
BC Loss: tensor(0.0293)	NS PDE Loss: tensor(1.8747)	NS Div Free Loss: tensor(0.0002)	
Iteration: 18600	Total Loss: tensor(64.3885)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.0113)	phi BC Loss: tensor(2.9068e-06)	mu
BC Loss: tensor(0.0328)	NS PDE Loss: tensor(5.8169)	NS Div Free Loss: tensor(0.0003)	
Iteration: 18800	Total Loss: tensor(67.2721)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.0110)	phi BC Loss: tensor(5.2841e-06)	mu
BC Loss: tensor(0.0311)	NS PDE Loss: tensor(6.1539)	NS Div Free Loss: tensor(0.0001)	
Iteration: 19000	Total Loss: tensor(39.8069)		
IC Loss: tensor(0.0056)	u BC Loss: tensor(0.0116)	phi BC Loss: tensor(1.5986e-06)	mu
BC Loss: tensor(0.0284)	NS PDE Loss: tensor(3.4013)	NS Div Free Loss: tensor(3.2693e-05)	
Iteration: 19200	Total Loss: tensor(154.1954)		
IC Loss: tensor(0.0079)	u BC Loss: tensor(0.0093)	phi BC Loss: tensor(4.0022e-05)	mu
BC Loss: tensor(0.0393)	NS PDE Loss: tensor(14.6006)	NS Div Free Loss: tensor(0.0004)	
Iteration: 19400	Total Loss: tensor(56.7537)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.0100)	phi BC Loss: tensor(1.9875e-05)	mu
BC Loss: tensor(0.0427)	NS PDE Loss: tensor(5.0037)	NS Div Free Loss: tensor(0.0006)	
Iteration: 19600	Total Loss: tensor(145.4932)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0109)	phi BC Loss: tensor(4.5811e-05)	mu
BC Loss: tensor(0.0450)	NS PDE Loss: tensor(13.9152)	NS Div Free Loss: tensor(0.0006)	
Iteration: 19800	Total Loss: tensor(63.5640)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0109)	phi BC Loss: tensor(3.4943e-05)	mu
BC Loss: tensor(0.0474)	NS PDE Loss: tensor(5.6742)	NS Div Free Loss: tensor(0.0007)	
Iteration: 20000	Total Loss: tensor(434.5133)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.0100)	phi BC Loss: tensor(2.9163e-05)	mu
BC Loss: tensor(0.0422)	NS PDE Loss: tensor(42.8105)	NS Div Free Loss: tensor(0.0004)	
Current Final Time: 0.2 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(89.1488)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.0436)	phi BC Loss: tensor(6.3050e-13)	mu
BC Loss: tensor(0.1060)	NS PDE Loss: tensor(8.2153)	NS Div Free Loss: tensor(0.0001)	
Iteration: 400	Total Loss: tensor(52.7766)		
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.0464)	phi BC Loss: tensor(5.8871e-13)	mu

BC Loss: tensor(0.1079)	NS PDE Loss: tensor(4.6060)	NS Div Free Loss: tensor(4.9004e-05)	
Iteration: 600 Total Loss: tensor(41.4924)			
IC Loss: tensor(0.0056)	u BC Loss: tensor(0.0488)	phi BC Loss: tensor(6.1349e-13)	mu
BC Loss: tensor(0.1038)	NS PDE Loss: tensor(3.5104)	NS Div Free Loss: tensor(2.0103e-05)	
Iteration: 800 Total Loss: tensor(43.8329)			
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.0502)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.1006)	NS PDE Loss: tensor(3.7220)	NS Div Free Loss: tensor(1.1427e-05)	
Iteration: 1000 Total Loss: tensor(57.9424)			
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.0511)	phi BC Loss: tensor(5.1575e-13)	mu
BC Loss: tensor(0.0980)	NS PDE Loss: tensor(5.1717)	NS Div Free Loss: tensor(3.2491e-06)	
Iteration: 1200 Total Loss: tensor(63.1098)			
IC Loss: tensor(0.0069)	u BC Loss: tensor(0.0381)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.0972)	NS PDE Loss: tensor(5.5494)	NS Div Free Loss: tensor(4.1999e-05)	
Iteration: 1400 Total Loss: tensor(57.7886)			
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.0468)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.1180)	NS PDE Loss: tensor(5.0690)	NS Div Free Loss: tensor(0.0002)	
Iteration: 1600 Total Loss: tensor(41.5952)			
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.0502)	phi BC Loss: tensor(3.6609e-13)	mu
BC Loss: tensor(0.1103)	NS PDE Loss: tensor(3.5048)	NS Div Free Loss: tensor(0.0002)	
Iteration: 1800 Total Loss: tensor(44.3917)			
IC Loss: tensor(0.0054)	u BC Loss: tensor(0.0522)	phi BC Loss: tensor(3.1821e-12)	mu
BC Loss: tensor(0.1053)	NS PDE Loss: tensor(3.8165)	NS Div Free Loss: tensor(0.0002)	
Iteration: 2000 Total Loss: tensor(56.8666)			
IC Loss: tensor(0.0054)	u BC Loss: tensor(0.0494)	phi BC Loss: tensor(1.2592e-11)	mu
BC Loss: tensor(0.1036)	NS PDE Loss: tensor(5.0679)	NS Div Free Loss: tensor(8.5697e-05)	
Iteration: 2200 Total Loss: tensor(29.0869)			
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.0582)	phi BC Loss: tensor(8.0276e-11)	mu
BC Loss: tensor(0.1070)	NS PDE Loss: tensor(2.3295)	NS Div Free Loss: tensor(8.9556e-05)	
Iteration: 2400 Total Loss: tensor(240.0502)			
IC Loss: tensor(0.0068)	u BC Loss: tensor(0.0404)	phi BC Loss: tensor(2.4707e-10)	mu
BC Loss: tensor(0.1037)	NS PDE Loss: tensor(23.2544)	NS Div Free Loss: tensor(0.0001)	
Iteration: 2600 Total Loss: tensor(15.6718)			
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.0545)	phi BC Loss: tensor(2.6708e-09)	mu
BC Loss: tensor(0.1154)	NS PDE Loss: tensor(0.9695)	NS Div Free Loss: tensor(0.0001)	
Iteration: 2800 Total Loss: tensor(64.3406)			
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.0501)	phi BC Loss: tensor(1.4422e-08)	mu
BC Loss: tensor(0.1075)	NS PDE Loss: tensor(5.8311)	NS Div Free Loss: tensor(6.9543e-05)	
Iteration: 3000 Total Loss: tensor(47.5592)			
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.0512)	phi BC Loss: tensor(1.4686e-07)	mu
BC Loss: tensor(0.1045)	NS PDE Loss: tensor(4.1694)	NS Div Free Loss: tensor(3.3174e-05)	
Iteration: 3200 Total Loss: tensor(71.3474)			
IC Loss: tensor(0.0067)	u BC Loss: tensor(0.0392)	phi BC Loss: tensor(5.4033e-07)	mu

BC Loss: tensor(0.1414)	NS PDE Loss: tensor(6.3718)	NS Div Free Loss: tensor(0.0005)	
Iteration: 3400	Total Loss: tensor(90.7981)		
IC Loss: tensor(0.0085)	u BC Loss: tensor(0.0318)	phi BC Loss: tensor(2.1168e-06)	mu
BC Loss: tensor(0.1709)	NS PDE Loss: tensor(8.1274)	NS Div Free Loss: tensor(0.0005)	
Iteration: 3600	Total Loss: tensor(71.1833)		
IC Loss: tensor(0.0083)	u BC Loss: tensor(0.0326)	phi BC Loss: tensor(1.0801e-05)	mu
BC Loss: tensor(0.1771)	NS PDE Loss: tensor(6.1805)	NS Div Free Loss: tensor(0.0005)	
Iteration: 3800	Total Loss: tensor(16.5912)		
IC Loss: tensor(0.0078)	u BC Loss: tensor(0.0351)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.1690)	NS PDE Loss: tensor(0.7764)	NS Div Free Loss: tensor(0.0004)	
Iteration: 4000	Total Loss: tensor(378.3433)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.0356)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.1677)	NS PDE Loss: tensor(37.0214)	NS Div Free Loss: tensor(0.0003)	
Iteration: 4200	Total Loss: tensor(277.0453)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0386)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1623)	NS PDE Loss: tensor(26.9531)	NS Div Free Loss: tensor(0.0001)	
Iteration: 4400	Total Loss: tensor(530.9851)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.0369)	phi BC Loss: tensor(1.5829e-05)	mu
BC Loss: tensor(0.1346)	NS PDE Loss: tensor(52.2400)	NS Div Free Loss: tensor(0.0003)	
Iteration: 4600	Total Loss: tensor(31.4252)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0607)	phi BC Loss: tensor(3.8776e-06)	mu
BC Loss: tensor(0.1138)	NS PDE Loss: tensor(2.5912)	NS Div Free Loss: tensor(0.0002)	
Iteration: 4800	Total Loss: tensor(212.1056)		
IC Loss: tensor(0.0084)	u BC Loss: tensor(0.0315)	phi BC Loss: tensor(8.3167e-06)	mu
BC Loss: tensor(0.1536)	NS PDE Loss: tensor(20.2812)	NS Div Free Loss: tensor(0.0004)	
Iteration: 5000	Total Loss: tensor(57.1067)		
IC Loss: tensor(0.0081)	u BC Loss: tensor(0.0329)	phi BC Loss: tensor(6.7208e-06)	mu
BC Loss: tensor(0.1731)	NS PDE Loss: tensor(4.7935)	NS Div Free Loss: tensor(0.0004)	
Iteration: 5200	Total Loss: tensor(156.3464)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0543)	phi BC Loss: tensor(1.1996e-05)	mu
BC Loss: tensor(0.1207)	NS PDE Loss: tensor(15.0591)	NS Div Free Loss: tensor(0.0002)	
Iteration: 5400	Total Loss: tensor(694.6688)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.0461)	phi BC Loss: tensor(3.7740e-05)	mu
BC Loss: tensor(0.1112)	NS PDE Loss: tensor(68.8367)	NS Div Free Loss: tensor(0.0001)	
Iteration: 5600	Total Loss: tensor(36.6747)		
IC Loss: tensor(0.0078)	u BC Loss: tensor(0.0332)	phi BC Loss: tensor(5.1081e-06)	mu
BC Loss: tensor(0.1378)	NS PDE Loss: tensor(2.8065)	NS Div Free Loss: tensor(0.0003)	
Iteration: 5800	Total Loss: tensor(98.8904)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0566)	phi BC Loss: tensor(1.0202e-05)	mu
BC Loss: tensor(0.1128)	NS PDE Loss: tensor(9.3337)	NS Div Free Loss: tensor(0.0001)	
Iteration: 6000	Total Loss: tensor(152.5369)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.0433)	phi BC Loss: tensor(1.7100e-05)	mu

BC Loss: tensor(0.1195)	NS PDE Loss: tensor(14.6009)	NS Div Free Loss: tensor(0.0002)	
Iteration: 6200	Total Loss: tensor(60.1357)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0517)	phi BC Loss: tensor(2.2709e-05)	mu
BC Loss: tensor(0.1095)	NS PDE Loss: tensor(5.4432)	NS Div Free Loss: tensor(9.6340e-05)	
Iteration: 6400	Total Loss: tensor(41.5245)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0538)	phi BC Loss: tensor(5.5644e-05)	mu
BC Loss: tensor(0.1017)	NS PDE Loss: tensor(3.6050)	NS Div Free Loss: tensor(5.5036e-05)	
Iteration: 6600	Total Loss: tensor(41.5795)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0546)	phi BC Loss: tensor(7.0066e-05)	mu
BC Loss: tensor(0.0969)	NS PDE Loss: tensor(3.6160)	NS Div Free Loss: tensor(3.3705e-05)	
Iteration: 6800	Total Loss: tensor(42.7168)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0551)	phi BC Loss: tensor(5.7096e-05)	mu
BC Loss: tensor(0.0938)	NS PDE Loss: tensor(3.7398)	NS Div Free Loss: tensor(1.7752e-05)	
Iteration: 7000	Total Loss: tensor(41.7423)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0558)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.0909)	NS PDE Loss: tensor(3.6460)	NS Div Free Loss: tensor(8.7493e-06)	
Iteration: 7200	Total Loss: tensor(92.9456)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.0464)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1071)	NS PDE Loss: tensor(8.6902)	NS Div Free Loss: tensor(0.0002)	
Iteration: 7400	Total Loss: tensor(51.4776)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0529)	phi BC Loss: tensor(6.5831e-05)	mu
BC Loss: tensor(0.1032)	NS PDE Loss: tensor(4.5957)	NS Div Free Loss: tensor(0.0002)	
Iteration: 7600	Total Loss: tensor(46.8750)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0545)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.0982)	NS PDE Loss: tensor(4.1367)	NS Div Free Loss: tensor(0.0001)	
Iteration: 7800	Total Loss: tensor(31.7432)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0559)	phi BC Loss: tensor(5.4877e-05)	mu
BC Loss: tensor(0.0945)	NS PDE Loss: tensor(2.6386)	NS Div Free Loss: tensor(0.0001)	
Iteration: 8000	Total Loss: tensor(62.3396)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0516)	phi BC Loss: tensor(3.0051e-05)	mu
BC Loss: tensor(0.0962)	NS PDE Loss: tensor(5.6867)	NS Div Free Loss: tensor(0.0001)	
Iteration: 8200	Total Loss: tensor(70.5762)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0502)	phi BC Loss: tensor(6.3801e-06)	mu
BC Loss: tensor(0.1031)	NS PDE Loss: tensor(6.4936)	NS Div Free Loss: tensor(0.0002)	
Iteration: 8400	Total Loss: tensor(47.7690)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0584)	phi BC Loss: tensor(1.7083e-07)	mu
BC Loss: tensor(0.0979)	NS PDE Loss: tensor(4.2516)	NS Div Free Loss: tensor(0.0001)	
Iteration: 8600	Total Loss: tensor(17.8733)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0562)	phi BC Loss: tensor(1.4628e-07)	mu
BC Loss: tensor(0.0972)	NS PDE Loss: tensor(1.2501)	NS Div Free Loss: tensor(0.0001)	
Iteration: 8800	Total Loss: tensor(40.1047)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.0494)	phi BC Loss: tensor(1.0171e-07)	mu

BC Loss: tensor(0.0954)	NS PDE Loss: tensor(3.4080)	NS Div Free Loss: tensor(0.0002)	
Iteration: 9000	Total Loss: tensor(57.3888)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0539)	phi BC Loss: tensor(4.3038e-07)	mu
BC Loss: tensor(0.0952)	NS PDE Loss: tensor(5.2025)	NS Div Free Loss: tensor(0.0001)	
Iteration: 9200	Total Loss: tensor(35.9002)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0560)	phi BC Loss: tensor(3.0790e-07)	mu
BC Loss: tensor(0.0945)	NS PDE Loss: tensor(3.0629)	NS Div Free Loss: tensor(0.0002)	
Iteration: 9400	Total Loss: tensor(74.5382)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.0457)	phi BC Loss: tensor(3.3650e-07)	mu
BC Loss: tensor(0.1003)	NS PDE Loss: tensor(6.8513)	NS Div Free Loss: tensor(0.0002)	
Iteration: 9600	Total Loss: tensor(97.2865)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.0497)	phi BC Loss: tensor(1.0101e-06)	mu
BC Loss: tensor(0.0967)	NS PDE Loss: tensor(9.1727)	NS Div Free Loss: tensor(0.0002)	
Iteration: 9800	Total Loss: tensor(367.3300)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.0482)	phi BC Loss: tensor(9.5025e-07)	mu
BC Loss: tensor(0.0972)	NS PDE Loss: tensor(36.1525)	NS Div Free Loss: tensor(0.0002)	
Iteration: 10000	Total Loss: tensor(62.9937)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0522)	phi BC Loss: tensor(7.7384e-07)	mu
BC Loss: tensor(0.0932)	NS PDE Loss: tensor(5.7639)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10200	Total Loss: tensor(40.2833)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0540)	phi BC Loss: tensor(8.2906e-07)	mu
BC Loss: tensor(0.0883)	NS PDE Loss: tensor(3.5041)	NS Div Free Loss: tensor(7.5111e-05)	
Iteration: 10400	Total Loss: tensor(40.7521)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0546)	phi BC Loss: tensor(2.4911e-06)	mu
BC Loss: tensor(0.0851)	NS PDE Loss: tensor(3.5559)	NS Div Free Loss: tensor(4.6530e-05)	
Iteration: 10600	Total Loss: tensor(30.7046)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0555)	phi BC Loss: tensor(1.9730e-07)	mu
BC Loss: tensor(0.0829)	NS PDE Loss: tensor(2.5552)	NS Div Free Loss: tensor(2.6731e-05)	
Iteration: 10800	Total Loss: tensor(30.1496)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0561)	phi BC Loss: tensor(7.6080e-07)	mu
BC Loss: tensor(0.0804)	NS PDE Loss: tensor(2.5119)	NS Div Free Loss: tensor(1.3915e-05)	
Iteration: 11000	Total Loss: tensor(33.7422)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0517)	phi BC Loss: tensor(5.3678e-07)	mu
BC Loss: tensor(0.0864)	NS PDE Loss: tensor(2.8362)	NS Div Free Loss: tensor(0.0002)	
Iteration: 11200	Total Loss: tensor(33.4092)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0583)	phi BC Loss: tensor(9.8274e-07)	mu
BC Loss: tensor(0.0924)	NS PDE Loss: tensor(2.8246)	NS Div Free Loss: tensor(0.0002)	
Iteration: 11400	Total Loss: tensor(120.4691)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.0452)	phi BC Loss: tensor(1.0020e-06)	mu
BC Loss: tensor(0.0894)	NS PDE Loss: tensor(11.4569)	NS Div Free Loss: tensor(0.0002)	
Iteration: 11600	Total Loss: tensor(164.3198)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.0391)	phi BC Loss: tensor(1.6851e-05)	mu

BC Loss: tensor(0.1202)	NS PDE Loss: tensor(15.7367)	NS Div Free Loss: tensor(0.0002)	
Iteration: 11800	Total Loss: tensor(144.8897)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.0363)	phi BC Loss: tensor(3.0138e-05)	mu
BC Loss: tensor(0.1360)	NS PDE Loss: tensor(13.7569)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12000	Total Loss: tensor(262.4338)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.0369)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1366)	NS PDE Loss: tensor(25.5305)	NS Div Free Loss: tensor(7.3003e-05)	
Iteration: 12200	Total Loss: tensor(191.4368)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.0493)	phi BC Loss: tensor(2.3048e-05)	mu
BC Loss: tensor(0.0902)	NS PDE Loss: tensor(18.5933)	NS Div Free Loss: tensor(0.0003)	
Iteration: 12400	Total Loss: tensor(92.4750)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.0440)	phi BC Loss: tensor(4.0454e-05)	mu
BC Loss: tensor(0.1099)	NS PDE Loss: tensor(8.6388)	NS Div Free Loss: tensor(0.0002)	
Iteration: 12600	Total Loss: tensor(75.3365)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0486)	phi BC Loss: tensor(5.3555e-06)	mu
BC Loss: tensor(0.0947)	NS PDE Loss: tensor(6.9670)	NS Div Free Loss: tensor(0.0002)	
Iteration: 12800	Total Loss: tensor(62.0993)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0533)	phi BC Loss: tensor(1.0883e-06)	mu
BC Loss: tensor(0.0886)	NS PDE Loss: tensor(5.6651)	NS Div Free Loss: tensor(0.0002)	
Iteration: 13000	Total Loss: tensor(37.7576)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0545)	phi BC Loss: tensor(2.1537e-05)	mu
BC Loss: tensor(0.0843)	NS PDE Loss: tensor(3.2590)	NS Div Free Loss: tensor(0.0002)	
Iteration: 13200	Total Loss: tensor(369.9513)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.0377)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1312)	NS PDE Loss: tensor(36.2774)	NS Div Free Loss: tensor(0.0003)	
Iteration: 13400	Total Loss: tensor(243.8160)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.0447)	phi BC Loss: tensor(7.6389e-05)	mu
BC Loss: tensor(0.1246)	NS PDE Loss: tensor(23.7651)	NS Div Free Loss: tensor(0.0003)	
Iteration: 13600	Total Loss: tensor(379.4767)		
IC Loss: tensor(0.0066)	u BC Loss: tensor(0.0358)	phi BC Loss: tensor(9.1352e-05)	mu
BC Loss: tensor(0.1360)	NS PDE Loss: tensor(37.2048)	NS Div Free Loss: tensor(0.0003)	
Iteration: 13800	Total Loss: tensor(134.4181)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.0389)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.1340)	NS PDE Loss: tensor(12.7546)	NS Div Free Loss: tensor(0.0002)	
Iteration: 14000	Total Loss: tensor(108.1143)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.0494)	phi BC Loss: tensor(1.4368e-06)	mu
BC Loss: tensor(0.1113)	NS PDE Loss: tensor(10.2253)	NS Div Free Loss: tensor(0.0003)	
Iteration: 14200	Total Loss: tensor(58.8921)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0502)	phi BC Loss: tensor(8.4653e-07)	mu
BC Loss: tensor(0.0861)	NS PDE Loss: tensor(5.3509)	NS Div Free Loss: tensor(0.0002)	
Iteration: 14400	Total Loss: tensor(923.0915)		
IC Loss: tensor(0.0069)	u BC Loss: tensor(0.0345)	phi BC Loss: tensor(1.1776e-06)	mu

BC Loss: tensor(0.1100)	NS PDE Loss: tensor(91.5470)	NS Div Free Loss: tensor(0.0004)	
Iteration: 14600	Total Loss: tensor(13.4912)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0603)	phi BC Loss: tensor(2.3058e-06)	mu
BC Loss: tensor(0.0992)	NS PDE Loss: tensor(0.8380)	NS Div Free Loss: tensor(0.0002)	
Iteration: 14800	Total Loss: tensor(71.4468)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0767)	phi BC Loss: tensor(2.7114e-06)	mu
BC Loss: tensor(0.0927)	NS PDE Loss: tensor(6.6217)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15000	Total Loss: tensor(50.7390)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0523)	phi BC Loss: tensor(7.7571e-07)	mu
BC Loss: tensor(0.0860)	NS PDE Loss: tensor(4.5502)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15200	Total Loss: tensor(38.4517)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0544)	phi BC Loss: tensor(2.4500e-06)	mu
BC Loss: tensor(0.0817)	NS PDE Loss: tensor(3.3358)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15400	Total Loss: tensor(42.0962)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0550)	phi BC Loss: tensor(4.5830e-06)	mu
BC Loss: tensor(0.0785)	NS PDE Loss: tensor(3.7062)	NS Div Free Loss: tensor(7.7638e-05)	
Iteration: 15600	Total Loss: tensor(35.3620)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0557)	phi BC Loss: tensor(1.5859e-06)	mu
BC Loss: tensor(0.0764)	NS PDE Loss: tensor(3.0372)	NS Div Free Loss: tensor(5.4402e-05)	
Iteration: 15800	Total Loss: tensor(31.3061)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0564)	phi BC Loss: tensor(3.7272e-07)	mu
BC Loss: tensor(0.0745)	NS PDE Loss: tensor(2.6358)	NS Div Free Loss: tensor(3.4341e-05)	
Iteration: 16000	Total Loss: tensor(103.9418)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.0504)	phi BC Loss: tensor(1.0581e-06)	mu
BC Loss: tensor(0.0752)	NS PDE Loss: tensor(9.8613)	NS Div Free Loss: tensor(0.0002)	
Iteration: 16200	Total Loss: tensor(27.6090)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0494)	phi BC Loss: tensor(8.1435e-07)	mu
BC Loss: tensor(0.0936)	NS PDE Loss: tensor(2.2031)	NS Div Free Loss: tensor(0.0003)	
Iteration: 16400	Total Loss: tensor(42.1371)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0480)	phi BC Loss: tensor(3.2921e-06)	mu
BC Loss: tensor(0.0883)	NS PDE Loss: tensor(3.6543)	NS Div Free Loss: tensor(0.0003)	
Iteration: 16600	Total Loss: tensor(68.9138)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0589)	phi BC Loss: tensor(2.3415e-06)	mu
BC Loss: tensor(0.0802)	NS PDE Loss: tensor(6.3921)	NS Div Free Loss: tensor(0.0002)	
Iteration: 16800	Total Loss: tensor(22.2597)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0565)	phi BC Loss: tensor(3.0091e-06)	mu
BC Loss: tensor(0.0737)	NS PDE Loss: tensor(1.7294)	NS Div Free Loss: tensor(7.7603e-05)	
Iteration: 17000	Total Loss: tensor(39.8321)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0557)	phi BC Loss: tensor(2.7488e-06)	mu
BC Loss: tensor(0.0788)	NS PDE Loss: tensor(3.4785)	NS Div Free Loss: tensor(0.0002)	
Iteration: 17200	Total Loss: tensor(76.3544)		
IC Loss: tensor(0.0058)	u BC Loss: tensor(0.0411)	phi BC Loss: tensor(3.8003e-06)	mu

BC Loss: tensor(0.0905)	NS PDE Loss: tensor(6.9867)	NS Div Free Loss: tensor(0.0003)	
Iteration: 17400	Total Loss: tensor(50.2297)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.0451)	phi BC Loss: tensor(4.1472e-06)	mu
BC Loss: tensor(0.0917)	NS PDE Loss: tensor(4.4447)	NS Div Free Loss: tensor(0.0002)	
Iteration: 17600	Total Loss: tensor(211.0968)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.0467)	phi BC Loss: tensor(6.7435e-06)	mu
BC Loss: tensor(0.0928)	NS PDE Loss: tensor(20.5463)	NS Div Free Loss: tensor(8.4565e-05)	
Iteration: 17800	Total Loss: tensor(83.7392)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.0458)	phi BC Loss: tensor(1.8098e-06)	mu
BC Loss: tensor(0.0900)	NS PDE Loss: tensor(7.8097)	NS Div Free Loss: tensor(8.1405e-05)	
Iteration: 18000	Total Loss: tensor(261.4199)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.0478)	phi BC Loss: tensor(4.0227e-06)	mu
BC Loss: tensor(0.0828)	NS PDE Loss: tensor(25.6009)	NS Div Free Loss: tensor(4.7812e-05)	
Iteration: 18200	Total Loss: tensor(66.0771)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.0477)	phi BC Loss: tensor(1.0568e-06)	mu
BC Loss: tensor(0.0919)	NS PDE Loss: tensor(6.0414)	NS Div Free Loss: tensor(0.0003)	
Iteration: 18400	Total Loss: tensor(49.9479)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.0533)	phi BC Loss: tensor(2.9371e-06)	mu
BC Loss: tensor(0.0807)	NS PDE Loss: tensor(4.4718)	NS Div Free Loss: tensor(0.0003)	
Iteration: 18600	Total Loss: tensor(41.2789)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0548)	phi BC Loss: tensor(2.9627e-06)	mu
BC Loss: tensor(0.0770)	NS PDE Loss: tensor(3.6152)	NS Div Free Loss: tensor(0.0002)	
Iteration: 18800	Total Loss: tensor(35.4011)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0563)	phi BC Loss: tensor(3.2598e-06)	mu
BC Loss: tensor(0.0746)	NS PDE Loss: tensor(3.0351)	NS Div Free Loss: tensor(0.0002)	
Iteration: 19000	Total Loss: tensor(23.7219)		
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.0403)	phi BC Loss: tensor(4.0071e-06)	mu
BC Loss: tensor(0.0857)	NS PDE Loss: tensor(1.7210)	NS Div Free Loss: tensor(0.0003)	
Iteration: 19200	Total Loss: tensor(64.2013)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.0524)	phi BC Loss: tensor(5.6970e-06)	mu
BC Loss: tensor(0.0782)	NS PDE Loss: tensor(5.9025)	NS Div Free Loss: tensor(0.0001)	
Iteration: 19400	Total Loss: tensor(55.7535)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.0543)	phi BC Loss: tensor(7.3611e-06)	mu
BC Loss: tensor(0.0740)	NS PDE Loss: tensor(5.0725)	NS Div Free Loss: tensor(7.9049e-05)	
Iteration: 19600	Total Loss: tensor(42.0355)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0558)	phi BC Loss: tensor(1.0517e-05)	mu
BC Loss: tensor(0.0705)	NS PDE Loss: tensor(3.7095)	NS Div Free Loss: tensor(5.6227e-05)	
Iteration: 19800	Total Loss: tensor(45.3636)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0560)	phi BC Loss: tensor(1.4746e-05)	mu
BC Loss: tensor(0.0692)	NS PDE Loss: tensor(4.0447)	NS Div Free Loss: tensor(3.0138e-05)	
Iteration: 20000	Total Loss: tensor(26.7675)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.0572)	phi BC Loss: tensor(2.8879e-05)	mu

```

BC Loss: tensor(0.0679)      NS PDE Loss: tensor(2.1889)      NS Div Free Loss: tensor(8.1453e-06)
Current Final Time: 0.3 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(134.2060)
IC Loss: tensor(0.0044)      u BC Loss: tensor(0.1634)      phi BC Loss: tensor(2.8972e-06)      mu
BC Loss: tensor(0.2073)      NS PDE Loss: tensor(12.7998)    NS Div Free Loss: tensor(0.0002)
Iteration: 400 Total Loss: tensor(40.0458)
IC Loss: tensor(0.0047)      u BC Loss: tensor(0.1537)      phi BC Loss: tensor(5.6395e-07)      mu
BC Loss: tensor(0.1776)      NS PDE Loss: tensor(3.3683)    NS Div Free Loss: tensor(0.0002)
Iteration: 600 Total Loss: tensor(205.6198)
IC Loss: tensor(0.0058)      u BC Loss: tensor(0.1322)      phi BC Loss: tensor(1.2914e-05)      mu
BC Loss: tensor(0.1943)      NS PDE Loss: tensor(19.8168)    NS Div Free Loss: tensor(0.0002)
Iteration: 800 Total Loss: tensor(105.5698)
IC Loss: tensor(0.0055)      u BC Loss: tensor(0.1372)      phi BC Loss: tensor(2.9451e-05)      mu
BC Loss: tensor(0.1986)      NS PDE Loss: tensor(9.8377)    NS Div Free Loss: tensor(8.3203e-05)
Iteration: 1000 Total Loss: tensor(197.2657)
IC Loss: tensor(0.0053)      u BC Loss: tensor(0.1399)      phi BC Loss: tensor(8.1756e-05)      mu
BC Loss: tensor(0.1951)      NS PDE Loss: tensor(19.0266)    NS Div Free Loss: tensor(4.3291e-05)
Iteration: 1200 Total Loss: tensor(185.3316)
IC Loss: tensor(0.0053)      u BC Loss: tensor(0.1389)      phi BC Loss: tensor(0.0005)      mu BC Loss:
tensor(0.1879) NS PDE Loss: tensor(17.8408) NS Div Free Loss: tensor(4.6875e-05)
Iteration: 1400 Total Loss: tensor(133.3754)
IC Loss: tensor(0.0047)      u BC Loss: tensor(0.1530)      phi BC Loss: tensor(0.0005)      mu BC Loss:
tensor(0.1806) NS PDE Loss: tensor(12.7052) NS Div Free Loss: tensor(0.0002)
Iteration: 1600 Total Loss: tensor(123.0479)
IC Loss: tensor(0.0053)      u BC Loss: tensor(0.1407)      phi BC Loss: tensor(0.0005)      mu BC Loss:
tensor(0.2475) NS PDE Loss: tensor(11.5777) NS Div Free Loss: tensor(0.0003)
Iteration: 1800 Total Loss: tensor(103.6099)
IC Loss: tensor(0.0052)      u BC Loss: tensor(0.1429)      phi BC Loss: tensor(0.0004)      mu BC Loss:
tensor(0.1789) NS PDE Loss: tensor(9.6772) NS Div Free Loss: tensor(0.0001)
Iteration: 2000 Total Loss: tensor(203.7953)
IC Loss: tensor(0.0053)      u BC Loss: tensor(0.1415)      phi BC Loss: tensor(0.0005)      mu BC Loss:
tensor(0.1906) NS PDE Loss: tensor(19.6859) NS Div Free Loss: tensor(6.6778e-05)
Iteration: 2200 Total Loss: tensor(195.6172)
IC Loss: tensor(0.0053)      u BC Loss: tensor(0.1397)      phi BC Loss: tensor(0.0004)      mu BC Loss:
tensor(0.1866) NS PDE Loss: tensor(18.8720) NS Div Free Loss: tensor(7.4120e-05)
Iteration: 2400 Total Loss: tensor(87.0588)
IC Loss: tensor(0.0051)      u BC Loss: tensor(0.1433)      phi BC Loss: tensor(0.0003)      mu BC Loss:
tensor(0.1857) NS PDE Loss: tensor(8.0307) NS Div Free Loss: tensor(2.7736e-05)
Iteration: 2600 Total Loss: tensor(28.8932)
IC Loss: tensor(0.0050)      u BC Loss: tensor(0.1441)      phi BC Loss: tensor(0.0003)      mu BC Loss:
tensor(0.1822) NS PDE Loss: tensor(2.2229) NS Div Free Loss: tensor(1.6093e-05)
Iteration: 2800 Total Loss: tensor(163.7782)

```

IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1584)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1750)
NS PDE Loss: tensor(15.7603) NS Div Free Loss: tensor(9.9393e-05)			
Iteration: 3000 Total Loss: tensor(111.2599)			
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.1215)	phi BC Loss: tensor(1.5791e-05)	mu BC Loss: tensor(0.1854)
NS PDE Loss: tensor(10.2653) NS Div Free Loss: tensor(0.0002)			
Iteration: 3200 Total Loss: tensor(39.5011)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1680)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1708)
NS PDE Loss: tensor(3.3524) NS Div Free Loss: tensor(0.0001)			
Iteration: 3400 Total Loss: tensor(445.7453)			
IC Loss: tensor(0.0073)	u BC Loss: tensor(0.1199)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1895)
NS PDE Loss: tensor(43.6880) NS Div Free Loss: tensor(0.0002)			
Iteration: 3600 Total Loss: tensor(577.7195)			
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.1293)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1941)
NS PDE Loss: tensor(56.9676) NS Div Free Loss: tensor(0.0001)			
Iteration: 3800 Total Loss: tensor(115.8579)			
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.1481)	phi BC Loss: tensor(7.2292e-05)	mu BC Loss: tensor(0.1763)
NS PDE Loss: tensor(10.9324) NS Div Free Loss: tensor(0.0002)			
Iteration: 4000 Total Loss: tensor(44.8312)			
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1568)	phi BC Loss: tensor(5.3779e-05)	mu BC Loss: tensor(0.1663)
NS PDE Loss: tensor(3.8644) NS Div Free Loss: tensor(0.0001)			
Iteration: 4200 Total Loss: tensor(61.7219)			
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.1525)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1713)
NS PDE Loss: tensor(5.5277) NS Div Free Loss: tensor(0.0001)			
Iteration: 4400 Total Loss: tensor(8.0333)			
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1552)	phi BC Loss: tensor(0.0003)	mu BC Loss: tensor(0.1569)
NS PDE Loss: tensor(0.1829) NS Div Free Loss: tensor(0.0001)			
Iteration: 4600 Total Loss: tensor(19.9571)			
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1479)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1766)
NS PDE Loss: tensor(1.3374) NS Div Free Loss: tensor(0.0001)			
Iteration: 4800 Total Loss: tensor(62.5339)			
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.1463)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1723)
NS PDE Loss: tensor(5.5598) NS Div Free Loss: tensor(0.0001)			
Iteration: 5000 Total Loss: tensor(32.9330)			
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.1455)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1602)
NS PDE Loss: tensor(2.6336) NS Div Free Loss: tensor(0.0001)			
Iteration: 5200 Total Loss: tensor(114.1022)			
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1477)	phi BC Loss: tensor(0.0004)	mu BC Loss: tensor(0.1673)
NS PDE Loss: tensor(10.7550) NS Div Free Loss: tensor(8.8213e-05)			
Iteration: 5400 Total Loss: tensor(30.7714)			
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1575)	phi BC Loss: tensor(0.0003)	mu BC Loss: tensor(0.1603)
NS PDE Loss: tensor(2.4665) NS Div Free Loss: tensor(8.7418e-05)			
Iteration: 5600 Total Loss: tensor(36.7505)			

IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1594)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1566)
NS PDE Loss: tensor(3.0728)		NS Div Free Loss: tensor(6.5299e-05)	
Iteration: 5800 Total Loss: tensor(44.0293)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1607)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1539)
NS PDE Loss: tensor(3.8068)		NS Div Free Loss: tensor(4.3970e-05)	
Iteration: 6000 Total Loss: tensor(52.6259)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1616)	phi BC Loss: tensor(0.0002)	mu BC Loss: tensor(0.1519)
NS PDE Loss: tensor(4.6709)		NS Div Free Loss: tensor(2.3349e-05)	
Iteration: 6200 Total Loss: tensor(59.3768)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1651)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1498)
NS PDE Loss: tensor(5.3530)		NS Div Free Loss: tensor(9.8784e-06)	
Iteration: 6400 Total Loss: tensor(309.2881)			
IC Loss: tensor(0.0067)	u BC Loss: tensor(0.1289)	phi BC Loss: tensor(6.6397e-09)	mu BC Loss: tensor(0.1746)
NS PDE Loss: tensor(30.1087)		NS Div Free Loss: tensor(0.0001)	
Iteration: 6600 Total Loss: tensor(48.7007)			
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.1563)	phi BC Loss: tensor(2.5103e-08)	mu BC Loss: tensor(0.1539)
NS PDE Loss: tensor(4.2489)		NS Div Free Loss: tensor(9.5350e-05)	
Iteration: 6800 Total Loss: tensor(55.7742)			
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1578)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1594)
NS PDE Loss: tensor(4.9649)		NS Div Free Loss: tensor(9.9429e-05)	
Iteration: 7000 Total Loss: tensor(54.7974)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1615)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1546)
NS PDE Loss: tensor(4.8787)		NS Div Free Loss: tensor(8.8105e-05)	
Iteration: 7200 Total Loss: tensor(131.3186)			
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.1470)	phi BC Loss: tensor(2.5696e-05)	mu BC Loss: tensor(0.1546)
NS PDE Loss: tensor(12.4898)		NS Div Free Loss: tensor(0.0001)	
Iteration: 7400 Total Loss: tensor(65.9505)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1628)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1484)
NS PDE Loss: tensor(6.0005)		NS Div Free Loss: tensor(9.4984e-05)	
Iteration: 7600 Total Loss: tensor(306.7726)			
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.1477)	phi BC Loss: tensor(9.0258e-05)	mu BC Loss: tensor(0.1609)
NS PDE Loss: tensor(30.0167)		NS Div Free Loss: tensor(0.0001)	
Iteration: 7800 Total Loss: tensor(149.6642)			
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.1480)	phi BC Loss: tensor(8.9223e-05)	mu BC Loss: tensor(0.1773)
NS PDE Loss: tensor(14.3101)		NS Div Free Loss: tensor(0.0001)	
Iteration: 8000 Total Loss: tensor(45.3140)			
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.1309)	phi BC Loss: tensor(0.0001)	mu BC Loss: tensor(0.1647)
NS PDE Loss: tensor(3.7710)		NS Div Free Loss: tensor(0.0002)	
Iteration: 8200 Total Loss: tensor(443.8449)			
IC Loss: tensor(0.0075)	u BC Loss: tensor(0.1183)	phi BC Loss: tensor(4.1235e-05)	mu BC Loss: tensor(0.1629)
NS PDE Loss: tensor(43.4943)		NS Div Free Loss: tensor(0.0002)	
Iteration: 8400 Total Loss: tensor(492.8391)			

IC Loss: tensor(0.0081)	u BC Loss: tensor(0.1126)	phi BC Loss: tensor(9.4446e-05)	mu
BC Loss: tensor(0.2271)	NS PDE Loss: tensor(48.3054)	NS Div Free Loss: tensor(0.0002)	
Iteration: 8600	Total Loss: tensor(9.0208)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.1397)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1839)	NS PDE Loss: tensor(0.1908)	NS Div Free Loss: tensor(0.0001)	
Iteration: 8800	Total Loss: tensor(200.0215)		
IC Loss: tensor(0.0068)	u BC Loss: tensor(0.1249)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.1853)	NS PDE Loss: tensor(19.1683)	NS Div Free Loss: tensor(0.0001)	
Iteration: 9000	Total Loss: tensor(333.4842)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.1296)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.2073)	NS PDE Loss: tensor(32.5527)	NS Div Free Loss: tensor(9.0388e-05)	
Iteration: 9200	Total Loss: tensor(375.2702)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(0.1169)	phi BC Loss: tensor(3.2438e-05)	mu
BC Loss: tensor(0.2059)	NS PDE Loss: tensor(36.6206)	NS Div Free Loss: tensor(0.0002)	
Iteration: 9400	Total Loss: tensor(24.4233)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1610)	phi BC Loss: tensor(5.7002e-05)	mu
BC Loss: tensor(0.1564)	NS PDE Loss: tensor(1.8400)	NS Div Free Loss: tensor(0.0001)	
Iteration: 9600	Total Loss: tensor(19.2054)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.1473)	phi BC Loss: tensor(6.9380e-09)	mu
BC Loss: tensor(0.1562)	NS PDE Loss: tensor(1.2467)	NS Div Free Loss: tensor(0.0001)	
Iteration: 9800	Total Loss: tensor(23.7364)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1596)	phi BC Loss: tensor(1.3508e-08)	mu
BC Loss: tensor(0.1525)	NS PDE Loss: tensor(1.7675)	NS Div Free Loss: tensor(8.6085e-05)	
Iteration: 10000	Total Loss: tensor(24.9336)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.1304)	phi BC Loss: tensor(2.0900e-08)	mu
BC Loss: tensor(0.1721)	NS PDE Loss: tensor(1.7335)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10200	Total Loss: tensor(369.9785)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.1414)	phi BC Loss: tensor(3.3986e-08)	mu
BC Loss: tensor(0.1998)	NS PDE Loss: tensor(36.2942)	NS Div Free Loss: tensor(0.0002)	
Iteration: 10400	Total Loss: tensor(61.2705)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1570)	phi BC Loss: tensor(4.7605e-08)	mu
BC Loss: tensor(0.1576)	NS PDE Loss: tensor(5.5101)	NS Div Free Loss: tensor(8.5959e-05)	
Iteration: 10600	Total Loss: tensor(62.1619)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1611)	phi BC Loss: tensor(7.5138e-08)	mu
BC Loss: tensor(0.1539)	NS PDE Loss: tensor(5.6144)	NS Div Free Loss: tensor(6.2333e-05)	
Iteration: 10800	Total Loss: tensor(35.7149)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1630)	phi BC Loss: tensor(9.6314e-08)	mu
BC Loss: tensor(0.1501)	NS PDE Loss: tensor(2.9767)	NS Div Free Loss: tensor(5.0396e-05)	
Iteration: 11000	Total Loss: tensor(48.3797)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1635)	phi BC Loss: tensor(2.8836e-07)	mu
BC Loss: tensor(0.1481)	NS PDE Loss: tensor(4.2477)	NS Div Free Loss: tensor(2.7377e-05)	
Iteration: 11200	Total Loss: tensor(37.3042)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1643)	phi BC Loss: tensor(5.2282e-07)	mu
BC Loss: tensor(0.1462)	NS PDE Loss: tensor(3.1440)	NS Div Free Loss: tensor(1.0165e-05)	
Iteration: 11400	Total Loss: tensor(31.2163)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1650)	phi BC Loss: tensor(3.5420e-06)	mu
BC Loss: tensor(0.1442)	NS PDE Loss: tensor(2.5387)	NS Div Free Loss: tensor(9.1330e-07)	
Iteration: 11600	Total Loss: tensor(24.6433)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.1445)	phi BC Loss: tensor(1.3772e-05)	mu
BC Loss: tensor(0.1513)	NS PDE Loss: tensor(1.8061)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11800	Total Loss: tensor(22.2279)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1690)	phi BC Loss: tensor(1.1239e-05)	mu
BC Loss: tensor(0.1517)	NS PDE Loss: tensor(1.6322)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12000	Total Loss: tensor(39.8031)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1487)	phi BC Loss: tensor(2.1028e-05)	mu
BC Loss: tensor(0.1581)	NS PDE Loss: tensor(3.3295)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12200	Total Loss: tensor(75.6077)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.1423)	phi BC Loss: tensor(3.6559e-05)	mu
BC Loss: tensor(0.1659)	NS PDE Loss: tensor(6.8893)	NS Div Free Loss: tensor(7.5392e-05)	
Iteration: 12400	Total Loss: tensor(174.3907)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1458)	phi BC Loss: tensor(4.4250e-05)	mu
BC Loss: tensor(0.1678)	NS PDE Loss: tensor(16.7800)	NS Div Free Loss: tensor(3.3950e-05)	
Iteration: 12600	Total Loss: tensor(102.9672)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1440)	phi BC Loss: tensor(4.0887e-05)	mu
BC Loss: tensor(0.1651)	NS PDE Loss: tensor(9.6387)	NS Div Free Loss: tensor(3.8512e-05)	
Iteration: 12800	Total Loss: tensor(59.9313)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.1450)	phi BC Loss: tensor(4.2013e-05)	mu
BC Loss: tensor(0.1636)	NS PDE Loss: tensor(5.3411)	NS Div Free Loss: tensor(2.1670e-05)	
Iteration: 13000	Total Loss: tensor(88.3159)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.1523)	phi BC Loss: tensor(4.4931e-05)	mu
BC Loss: tensor(0.1556)	NS PDE Loss: tensor(8.2091)	NS Div Free Loss: tensor(7.1267e-06)	
Iteration: 13200	Total Loss: tensor(150.5864)		
IC Loss: tensor(0.0070)	u BC Loss: tensor(0.1213)	phi BC Loss: tensor(4.0997e-05)	mu
BC Loss: tensor(0.2362)	NS PDE Loss: tensor(14.1775)	NS Div Free Loss: tensor(0.0003)	
Iteration: 13400	Total Loss: tensor(270.6362)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.1544)	phi BC Loss: tensor(4.1815e-05)	mu
BC Loss: tensor(0.1506)	NS PDE Loss: tensor(26.4441)	NS Div Free Loss: tensor(0.0001)	
Iteration: 13600	Total Loss: tensor(70.3775)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1548)	phi BC Loss: tensor(5.1833e-05)	mu
BC Loss: tensor(0.1532)	NS PDE Loss: tensor(6.4195)	NS Div Free Loss: tensor(0.0001)	
Iteration: 13800	Total Loss: tensor(57.0972)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1595)	phi BC Loss: tensor(5.9351e-05)	mu
BC Loss: tensor(0.1466)	NS PDE Loss: tensor(5.1081)	NS Div Free Loss: tensor(9.4455e-05)	
Iteration: 14000	Total Loss: tensor(45.5699)		

IC Loss: tensor(0.0053)	u BC Loss: tensor(0.1419)	phi BC Loss: tensor(9.0721e-05)	mu
BC Loss: tensor(0.1434)	NS PDE Loss: tensor(3.8880)	NS Div Free Loss: tensor(9.3185e-05)	
Iteration: 14200	Total Loss: tensor(155.4065)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1743)	phi BC Loss: tensor(4.1752e-05)	mu
BC Loss: tensor(0.1531)	NS PDE Loss: tensor(14.9560)	NS Div Free Loss: tensor(5.2267e-05)	
Iteration: 14400	Total Loss: tensor(649.5587)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.1378)	phi BC Loss: tensor(8.4751e-05)	mu
BC Loss: tensor(0.1798)	NS PDE Loss: tensor(64.2491)	NS Div Free Loss: tensor(6.6814e-05)	
Iteration: 14600	Total Loss: tensor(87.1652)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1562)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.1527)	NS PDE Loss: tensor(8.1030)	NS Div Free Loss: tensor(7.2509e-05)	
Iteration: 14800	Total Loss: tensor(70.9170)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1606)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.1461)	NS PDE Loss: tensor(6.4951)	NS Div Free Loss: tensor(5.2336e-05)	
Iteration: 15000	Total Loss: tensor(40.6237)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1617)	phi BC Loss: tensor(1.3849e-05)	mu
BC Loss: tensor(0.1415)	NS PDE Loss: tensor(3.4695)	NS Div Free Loss: tensor(4.9204e-05)	
Iteration: 15200	Total Loss: tensor(167.4943)		
IC Loss: tensor(0.0058)	u BC Loss: tensor(0.1330)	phi BC Loss: tensor(1.6360e-09)	mu
BC Loss: tensor(0.1778)	NS PDE Loss: tensor(16.0107)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15400	Total Loss: tensor(74.1698)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.1377)	phi BC Loss: tensor(2.0909e-08)	mu
BC Loss: tensor(0.1763)	NS PDE Loss: tensor(6.7077)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15600	Total Loss: tensor(156.4306)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.1440)	phi BC Loss: tensor(5.8527e-08)	mu
BC Loss: tensor(0.1720)	NS PDE Loss: tensor(14.9700)	NS Div Free Loss: tensor(6.7814e-05)	
Iteration: 15800	Total Loss: tensor(120.2949)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.1475)	phi BC Loss: tensor(6.4094e-06)	mu
BC Loss: tensor(0.1607)	NS PDE Loss: tensor(11.3807)	NS Div Free Loss: tensor(8.0909e-05)	
Iteration: 16000	Total Loss: tensor(79.4480)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1553)	phi BC Loss: tensor(8.7527e-05)	mu
BC Loss: tensor(0.1520)	NS PDE Loss: tensor(7.3300)	NS Div Free Loss: tensor(5.0117e-05)	
Iteration: 16200	Total Loss: tensor(51.4174)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1595)	phi BC Loss: tensor(9.5084e-05)	mu
BC Loss: tensor(0.1461)	NS PDE Loss: tensor(4.5438)	NS Div Free Loss: tensor(3.6444e-05)	
Iteration: 16400	Total Loss: tensor(43.9882)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1624)	phi BC Loss: tensor(6.9049e-05)	mu
BC Loss: tensor(0.1414)	NS PDE Loss: tensor(3.8110)	NS Div Free Loss: tensor(2.3063e-05)	
Iteration: 16600	Total Loss: tensor(39.9072)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1647)	phi BC Loss: tensor(4.6179e-05)	mu
BC Loss: tensor(0.1378)	NS PDE Loss: tensor(3.4095)	NS Div Free Loss: tensor(1.5456e-05)	
Iteration: 16800	Total Loss: tensor(35.6824)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1649)	phi BC Loss: tensor(3.0989e-05)	mu
BC Loss: tensor(0.1363)	NS PDE Loss: tensor(2.9896)	NS Div Free Loss: tensor(9.6886e-06)	
Iteration: 17000	Total Loss: tensor(42.8473)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1653)	phi BC Loss: tensor(1.7772e-05)	mu
BC Loss: tensor(0.1360)	NS PDE Loss: tensor(3.7067)	NS Div Free Loss: tensor(1.0687e-06)	
Iteration: 17200	Total Loss: tensor(32.1739)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1658)	phi BC Loss: tensor(2.3095e-05)	mu
BC Loss: tensor(0.1340)	NS PDE Loss: tensor(2.6433)	NS Div Free Loss: tensor(9.9604e-07)	
Iteration: 17400	Total Loss: tensor(29.3837)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1662)	phi BC Loss: tensor(1.7887e-05)	mu
BC Loss: tensor(0.1329)	NS PDE Loss: tensor(2.3657)	NS Div Free Loss: tensor(5.2165e-06)	
Iteration: 17600	Total Loss: tensor(61.3615)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.1528)	phi BC Loss: tensor(2.0683e-05)	mu
BC Loss: tensor(0.1503)	NS PDE Loss: tensor(5.5161)	NS Div Free Loss: tensor(8.6531e-05)	
Iteration: 17800	Total Loss: tensor(61.8104)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1599)	phi BC Loss: tensor(2.1713e-05)	mu
BC Loss: tensor(0.1415)	NS PDE Loss: tensor(5.5867)	NS Div Free Loss: tensor(6.4099e-05)	
Iteration: 18000	Total Loss: tensor(23.6620)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1619)	phi BC Loss: tensor(1.4452e-05)	mu
BC Loss: tensor(0.1360)	NS PDE Loss: tensor(1.7792)	NS Div Free Loss: tensor(6.1908e-05)	
Iteration: 18200	Total Loss: tensor(63.7323)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.1521)	phi BC Loss: tensor(2.0128e-07)	mu
BC Loss: tensor(0.1535)	NS PDE Loss: tensor(5.7064)	NS Div Free Loss: tensor(6.3575e-05)	
Iteration: 18400	Total Loss: tensor(34.7067)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.1602)	phi BC Loss: tensor(6.0424e-05)	mu
BC Loss: tensor(0.1422)	NS PDE Loss: tensor(2.8774)	NS Div Free Loss: tensor(4.1256e-05)	
Iteration: 18600	Total Loss: tensor(29.4105)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1628)	phi BC Loss: tensor(2.6679e-05)	mu
BC Loss: tensor(0.1376)	NS PDE Loss: tensor(2.3575)	NS Div Free Loss: tensor(2.6191e-05)	
Iteration: 18800	Total Loss: tensor(39.5712)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1645)	phi BC Loss: tensor(1.8438e-05)	mu
BC Loss: tensor(0.1346)	NS PDE Loss: tensor(3.3789)	NS Div Free Loss: tensor(1.5051e-05)	
Iteration: 19000	Total Loss: tensor(41.0381)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.1653)	phi BC Loss: tensor(1.2472e-05)	mu
BC Loss: tensor(0.1330)	NS PDE Loss: tensor(3.5289)	NS Div Free Loss: tensor(8.2046e-06)	
Iteration: 19200	Total Loss: tensor(32.1233)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1655)	phi BC Loss: tensor(9.6365e-06)	mu
BC Loss: tensor(0.1319)	NS PDE Loss: tensor(2.6392)	NS Div Free Loss: tensor(1.5826e-06)	
Iteration: 19400	Total Loss: tensor(29.2912)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1660)	phi BC Loss: tensor(6.9978e-06)	mu
BC Loss: tensor(0.1306)	NS PDE Loss: tensor(2.3575)	NS Div Free Loss: tensor(2.1531e-07)	
Iteration: 19600	Total Loss: tensor(27.1315)		

IC Loss: tensor(0.0042)	u BC Loss: tensor(0.1665)	phi BC Loss: tensor(5.0892e-06)	mu
BC Loss: tensor(0.1294)	NS PDE Loss: tensor(2.1434)	NS Div Free Loss: tensor(2.6105e-06)	
Iteration: 19800	Total Loss: tensor(115.6919)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.1526)	phi BC Loss: tensor(3.8561e-06)	mu
BC Loss: tensor(0.1352)	NS PDE Loss: tensor(10.9624)	NS Div Free Loss: tensor(8.3529e-05)	
Iteration: 20000	Total Loss: tensor(52.3785)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.1574)	phi BC Loss: tensor(3.6036e-05)	mu
BC Loss: tensor(0.1421)	NS PDE Loss: tensor(4.6396)	NS Div Free Loss: tensor(7.0109e-05)	
Current Final Time: 0.4 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(50.5014)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.2593)	phi BC Loss: tensor(3.2654e-06)	mu
BC Loss: tensor(0.2629)	NS PDE Loss: tensor(4.2160)	NS Div Free Loss: tensor(0.0002)	
Iteration: 400	Total Loss: tensor(231.7277)		
IC Loss: tensor(0.0054)	u BC Loss: tensor(0.2692)	phi BC Loss: tensor(3.1521e-06)	mu
BC Loss: tensor(0.2577)	NS PDE Loss: tensor(22.3739)	NS Div Free Loss: tensor(9.8066e-05)	
Iteration: 600	Total Loss: tensor(64.1975)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.2698)	phi BC Loss: tensor(4.0713e-06)	mu
BC Loss: tensor(0.2496)	NS PDE Loss: tensor(5.6380)	NS Div Free Loss: tensor(9.1790e-05)	
Iteration: 800	Total Loss: tensor(62.1939)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.2749)	phi BC Loss: tensor(1.1616e-05)	mu
BC Loss: tensor(0.2580)	NS PDE Loss: tensor(5.4431)	NS Div Free Loss: tensor(6.6300e-05)	
Iteration: 1000	Total Loss: tensor(199.5322)		
IC Loss: tensor(0.0056)	u BC Loss: tensor(0.2629)	phi BC Loss: tensor(3.9129e-05)	mu
BC Loss: tensor(0.2528)	NS PDE Loss: tensor(19.1364)	NS Div Free Loss: tensor(9.6086e-05)	
Iteration: 1200	Total Loss: tensor(60.6484)		
IC Loss: tensor(0.0080)	u BC Loss: tensor(0.2283)	phi BC Loss: tensor(3.3273e-05)	mu
BC Loss: tensor(0.2865)	NS PDE Loss: tensor(5.0054)	NS Div Free Loss: tensor(7.4834e-05)	
Iteration: 1400	Total Loss: tensor(59.9414)		
IC Loss: tensor(0.0081)	u BC Loss: tensor(0.2265)	phi BC Loss: tensor(3.4309e-05)	mu
BC Loss: tensor(0.3199)	NS PDE Loss: tensor(4.9111)	NS Div Free Loss: tensor(5.5101e-05)	
Iteration: 1600	Total Loss: tensor(59.7149)		
IC Loss: tensor(0.0080)	u BC Loss: tensor(0.2275)	phi BC Loss: tensor(3.1909e-05)	mu
BC Loss: tensor(0.3279)	NS PDE Loss: tensor(4.8947)	NS Div Free Loss: tensor(3.9801e-05)	
Iteration: 1800	Total Loss: tensor(64.0057)		
IC Loss: tensor(0.0079)	u BC Loss: tensor(0.2288)	phi BC Loss: tensor(1.7724e-05)	mu
BC Loss: tensor(0.3282)	NS PDE Loss: tensor(5.3356)	NS Div Free Loss: tensor(2.4732e-05)	
Iteration: 2000	Total Loss: tensor(557.3732)		
IC Loss: tensor(0.0073)	u BC Loss: tensor(0.2447)	phi BC Loss: tensor(3.5176e-05)	mu
BC Loss: tensor(0.3030)	NS PDE Loss: tensor(54.7320)	NS Div Free Loss: tensor(6.6322e-05)	
Iteration: 2200	Total Loss: tensor(56.3088)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3022)	phi BC Loss: tensor(3.1060e-05)	mu
BC Loss: tensor(0.2594)	NS PDE Loss: tensor(4.9160)	NS Div Free Loss: tensor(2.1736e-05)	

Iteration: 2400	Total Loss: tensor(424.1599)		
IC Loss: tensor(0.0079)	u BC Loss: tensor(0.2288)	phi BC Loss: tensor(2.1840e-05)	mu
BC Loss: tensor(0.2630)	NS PDE Loss: tensor(41.3840)	NS Div Free Loss: tensor(3.8874e-05)	
Iteration: 2600	Total Loss: tensor(435.1122)		
IC Loss: tensor(0.0079)	u BC Loss: tensor(0.2280)	phi BC Loss: tensor(1.2650e-05)	mu
BC Loss: tensor(0.3045)	NS PDE Loss: tensor(42.4566)	NS Div Free Loss: tensor(2.8972e-05)	
Iteration: 2800	Total Loss: tensor(439.7384)		
IC Loss: tensor(0.0078)	u BC Loss: tensor(0.2285)	phi BC Loss: tensor(1.8270e-05)	mu
BC Loss: tensor(0.3194)	NS PDE Loss: tensor(42.9188)	NS Div Free Loss: tensor(2.1148e-05)	
Iteration: 3000	Total Loss: tensor(204.4425)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.2302)	phi BC Loss: tensor(6.4644e-05)	mu
BC Loss: tensor(0.3232)	NS PDE Loss: tensor(19.3983)	NS Div Free Loss: tensor(9.7953e-06)	
Iteration: 3200	Total Loss: tensor(32.8141)		
IC Loss: tensor(0.0075)	u BC Loss: tensor(0.2346)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.2884)	NS PDE Loss: tensor(2.2737)	NS Div Free Loss: tensor(5.9287e-05)	
Iteration: 3400	Total Loss: tensor(63.2560)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.2901)	phi BC Loss: tensor(0.0004)	mu BC Loss:
tensor(0.3075)	NS PDE Loss: tensor(5.5695)	NS Div Free Loss: tensor(3.0904e-05)	
Iteration: 3600	Total Loss: tensor(45.8491)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.2864)	phi BC Loss: tensor(3.1128e-09)	mu
BC Loss: tensor(0.2404)	NS PDE Loss: tensor(3.8542)	NS Div Free Loss: tensor(2.0663e-05)	
Iteration: 3800	Total Loss: tensor(29.8799)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2957)	phi BC Loss: tensor(7.3430e-07)	mu
BC Loss: tensor(0.2252)	NS PDE Loss: tensor(2.2820)	NS Div Free Loss: tensor(1.1818e-05)	
Iteration: 4000	Total Loss: tensor(43.5540)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2992)	phi BC Loss: tensor(5.1641e-05)	mu
BC Loss: tensor(0.2168)	NS PDE Loss: tensor(3.6590)	NS Div Free Loss: tensor(2.7525e-06)	
Iteration: 4200	Total Loss: tensor(42.4987)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2968)	phi BC Loss: tensor(6.3942e-05)	mu
BC Loss: tensor(0.2321)	NS PDE Loss: tensor(3.5458)	NS Div Free Loss: tensor(4.4913e-06)	
Iteration: 4400	Total Loss: tensor(20.3144)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3024)	phi BC Loss: tensor(6.1606e-05)	mu
BC Loss: tensor(0.2208)	NS PDE Loss: tensor(1.3391)	NS Div Free Loss: tensor(1.7673e-06)	
Iteration: 4600	Total Loss: tensor(78.8612)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2968)	phi BC Loss: tensor(5.9236e-05)	mu
BC Loss: tensor(0.2192)	NS PDE Loss: tensor(7.1826)	NS Div Free Loss: tensor(8.7390e-07)	
Iteration: 4800	Total Loss: tensor(41.0550)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3006)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.2144)	NS PDE Loss: tensor(3.4152)	NS Div Free Loss: tensor(2.3468e-06)	
Iteration: 5000	Total Loss: tensor(39.4269)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3001)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.2089)	NS PDE Loss: tensor(3.2570)	NS Div Free Loss: tensor(7.7390e-07)	

```

Iteration: 5200      Total Loss: tensor(74.8995)
IC Loss:  tensor(0.0077)      u BC Loss:  tensor(0.2313)      phi BC Loss:  tensor(0.0003)      mu BC Loss:
tensor(0.2755) NS PDE Loss:  tensor(6.4668)      NS Div Free Loss:  tensor(3.7307e-06)
Iteration: 5400      Total Loss: tensor(58.8019)
IC Loss:  tensor(0.0077)      u BC Loss:  tensor(0.2312)      phi BC Loss:  tensor(0.0003)      mu BC Loss:
tensor(0.3007) NS PDE Loss:  tensor(4.8457)      NS Div Free Loss:  tensor(2.8605e-06)
Iteration: 5600      Total Loss: tensor(56.3118)
IC Loss:  tensor(0.0076)      u BC Loss:  tensor(0.2319)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.3079) NS PDE Loss:  tensor(4.6001)      NS Div Free Loss:  tensor(1.4892e-06)
Iteration: 5800      Total Loss: tensor(85.2031)
IC Loss:  tensor(0.0075)      u BC Loss:  tensor(0.2329)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.3092) NS PDE Loss:  tensor(7.4990)      NS Div Free Loss:  tensor(2.0932e-07)
Iteration: 6000      Total Loss: tensor(83.0868)
IC Loss:  tensor(0.0096)      u BC Loss:  tensor(0.2121)      phi BC Loss:  tensor(3.0515e-05)      mu
BC Loss:  tensor(0.2950)      NS PDE Loss:  tensor(7.0953)      NS Div Free Loss:  tensor(0.0001)
Iteration: 6200      Total Loss: tensor(179.9976)
IC Loss:  tensor(0.0076)      u BC Loss:  tensor(0.2338)      phi BC Loss:  tensor(8.1247e-06)      mu
BC Loss:  tensor(0.3238)      NS PDE Loss:  tensor(16.9650)      NS Div Free Loss:  tensor(3.3828e-05)
Iteration: 6400      Total Loss: tensor(608.9959)
IC Loss:  tensor(0.0071)      u BC Loss:  tensor(0.2423)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.2389) NS PDE Loss:  tensor(59.9520)      NS Div Free Loss:  tensor(6.7890e-06)
Iteration: 6600      Total Loss: tensor(77.0440)
IC Loss:  tensor(0.0053)      u BC Loss:  tensor(0.2684)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.2409) NS PDE Loss:  tensor(6.9187)      NS Div Free Loss:  tensor(7.4588e-06)
Iteration: 6800      Total Loss: tensor(41.9888)
IC Loss:  tensor(0.0052)      u BC Loss:  tensor(0.2710)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.2397) NS PDE Loss:  tensor(3.4239)      NS Div Free Loss:  tensor(6.4697e-06)
Iteration: 7000      Total Loss: tensor(110.1952)
IC Loss:  tensor(0.0050)      u BC Loss:  tensor(0.2764)      phi BC Loss:  tensor(0.0001)      mu BC Loss:
tensor(0.2377) NS PDE Loss:  tensor(10.2583)      NS Div Free Loss:  tensor(1.6188e-06)
Iteration: 7200      Total Loss: tensor(370.1221)
IC Loss:  tensor(0.0045)      u BC Loss:  tensor(0.2961)      phi BC Loss:  tensor(4.9181e-05)      mu
BC Loss:  tensor(0.2295)      NS PDE Loss:  tensor(36.3036)      NS Div Free Loss:  tensor(7.4956e-06)
Iteration: 7400      Total Loss: tensor(53.6507)
IC Loss:  tensor(0.0044)      u BC Loss:  tensor(0.2971)      phi BC Loss:  tensor(2.1084e-05)      mu
BC Loss:  tensor(0.2245)      NS PDE Loss:  tensor(4.6620)      NS Div Free Loss:  tensor(1.1918e-05)
Iteration: 7600      Total Loss: tensor(138.7303)
IC Loss:  tensor(0.0051)      u BC Loss:  tensor(0.2722)      phi BC Loss:  tensor(1.9563e-05)      mu
BC Loss:  tensor(0.2292)      NS PDE Loss:  tensor(13.1101)      NS Div Free Loss:  tensor(1.3099e-05)
Iteration: 7800      Total Loss: tensor(49.3712)
IC Loss:  tensor(0.0049)      u BC Loss:  tensor(0.2804)      phi BC Loss:  tensor(1.4982e-05)      mu
BC Loss:  tensor(0.2311)      NS PDE Loss:  tensor(4.1947)      NS Div Free Loss:  tensor(3.2729e-06)

```


Iteration: 8000	Total Loss: tensor(199.1848)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.2857)	phi BC Loss: tensor(7.1168e-06)	mu
BC Loss: tensor(0.2251)	NS PDE Loss: tensor(19.1911)	NS Div Free Loss: tensor(5.5216e-06)	
Iteration: 8200	Total Loss: tensor(45.9036)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.2903)	phi BC Loss: tensor(7.8764e-06)	mu
BC Loss: tensor(0.2169)	NS PDE Loss: tensor(3.8756)	NS Div Free Loss: tensor(8.9053e-06)	
Iteration: 8400	Total Loss: tensor(464.4388)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.2316)	phi BC Loss: tensor(3.0867e-06)	mu
BC Loss: tensor(0.2441)	NS PDE Loss: tensor(45.4315)	NS Div Free Loss: tensor(3.3673e-05)	
Iteration: 8600	Total Loss: tensor(409.7373)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.2307)	phi BC Loss: tensor(2.2919e-06)	mu
BC Loss: tensor(0.2877)	NS PDE Loss: tensor(39.9476)	NS Div Free Loss: tensor(2.4735e-05)	
Iteration: 8800	Total Loss: tensor(384.5137)		
IC Loss: tensor(0.0076)	u BC Loss: tensor(0.2318)	phi BC Loss: tensor(2.1372e-06)	mu
BC Loss: tensor(0.2989)	NS PDE Loss: tensor(37.4294)	NS Div Free Loss: tensor(2.4083e-05)	
Iteration: 9000	Total Loss: tensor(476.9869)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.2517)	phi BC Loss: tensor(1.7487e-06)	mu
BC Loss: tensor(0.2865)	NS PDE Loss: tensor(46.8240)	NS Div Free Loss: tensor(1.2166e-05)	
Iteration: 9200	Total Loss: tensor(514.8887)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.2906)	phi BC Loss: tensor(1.5838e-06)	mu
BC Loss: tensor(0.2455)	NS PDE Loss: tensor(50.7571)	NS Div Free Loss: tensor(2.9560e-06)	
Iteration: 9400	Total Loss: tensor(66.1000)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.2897)	phi BC Loss: tensor(7.2938e-07)	mu
BC Loss: tensor(0.2228)	NS PDE Loss: tensor(5.8948)	NS Div Free Loss: tensor(1.7917e-05)	
Iteration: 9600	Total Loss: tensor(28.0609)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2972)	phi BC Loss: tensor(5.6732e-07)	mu
BC Loss: tensor(0.2093)	NS PDE Loss: tensor(2.1104)	NS Div Free Loss: tensor(1.0289e-05)	
Iteration: 9800	Total Loss: tensor(56.1295)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3041)	phi BC Loss: tensor(7.1438e-07)	mu
BC Loss: tensor(0.2024)	NS PDE Loss: tensor(4.9290)	NS Div Free Loss: tensor(4.7343e-06)	
Iteration: 10000	Total Loss: tensor(26.3340)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.3102)	phi BC Loss: tensor(5.4048e-07)	mu
BC Loss: tensor(0.2068)	NS PDE Loss: tensor(1.9526)	NS Div Free Loss: tensor(3.8407e-06)	
Iteration: 10200	Total Loss: tensor(40.8567)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2981)	phi BC Loss: tensor(3.4918e-06)	mu
BC Loss: tensor(0.2032)	NS PDE Loss: tensor(3.3956)	NS Div Free Loss: tensor(8.6712e-07)	
Iteration: 10400	Total Loss: tensor(36.1952)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3010)	phi BC Loss: tensor(1.5477e-06)	mu
BC Loss: tensor(0.1990)	NS PDE Loss: tensor(2.9360)	NS Div Free Loss: tensor(4.8070e-07)	
Iteration: 10600	Total Loss: tensor(50.3513)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3028)	phi BC Loss: tensor(1.2338e-06)	mu
BC Loss: tensor(0.1969)	NS PDE Loss: tensor(4.3551)	NS Div Free Loss: tensor(1.2307e-06)	

Iteration: 10800	Total Loss: tensor(47.4511)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3037)	phi BC Loss: tensor(1.0358e-06)	mu
BC Loss: tensor(0.1949)	NS PDE Loss: tensor(4.0670)	NS Div Free Loss: tensor(7.8448e-06)	
Iteration: 11000	Total Loss: tensor(52.9335)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.3055)	phi BC Loss: tensor(9.9732e-07)	mu
BC Loss: tensor(0.1913)	NS PDE Loss: tensor(4.6210)	NS Div Free Loss: tensor(1.3791e-05)	
Iteration: 11200	Total Loss: tensor(52.0219)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.2838)	phi BC Loss: tensor(1.3471e-06)	mu
BC Loss: tensor(0.2021)	NS PDE Loss: tensor(4.4858)	NS Div Free Loss: tensor(9.7357e-06)	
Iteration: 11400	Total Loss: tensor(26.7941)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2969)	phi BC Loss: tensor(1.3752e-06)	mu
BC Loss: tensor(0.1989)	NS PDE Loss: tensor(1.9906)	NS Div Free Loss: tensor(4.8289e-06)	
Iteration: 11600	Total Loss: tensor(21.9038)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2991)	phi BC Loss: tensor(1.2954e-06)	mu
BC Loss: tensor(0.1926)	NS PDE Loss: tensor(1.5079)	NS Div Free Loss: tensor(3.2380e-06)	
Iteration: 11800	Total Loss: tensor(56.1471)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2967)	phi BC Loss: tensor(1.4483e-06)	mu
BC Loss: tensor(0.1959)	NS PDE Loss: tensor(4.9286)	NS Div Free Loss: tensor(3.0366e-06)	
Iteration: 12000	Total Loss: tensor(26.9907)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2986)	phi BC Loss: tensor(6.6272e-06)	mu
BC Loss: tensor(0.1950)	NS PDE Loss: tensor(2.0148)	NS Div Free Loss: tensor(4.5992e-07)	
Iteration: 12200	Total Loss: tensor(55.8553)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.2992)	phi BC Loss: tensor(4.7947e-06)	mu
BC Loss: tensor(0.1890)	NS PDE Loss: tensor(4.9078)	NS Div Free Loss: tensor(2.9955e-07)	
Iteration: 12400	Total Loss: tensor(37.5533)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3022)	phi BC Loss: tensor(4.7381e-06)	mu
BC Loss: tensor(0.1864)	NS PDE Loss: tensor(3.0822)	NS Div Free Loss: tensor(5.8616e-07)	
Iteration: 12600	Total Loss: tensor(40.3438)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3015)	phi BC Loss: tensor(3.9236e-06)	mu
BC Loss: tensor(0.1845)	NS PDE Loss: tensor(3.3618)	NS Div Free Loss: tensor(2.0214e-06)	
Iteration: 12800	Total Loss: tensor(39.2275)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3024)	phi BC Loss: tensor(1.0417e-05)	mu
BC Loss: tensor(0.1826)	NS PDE Loss: tensor(3.2528)	NS Div Free Loss: tensor(7.3307e-06)	
Iteration: 13000	Total Loss: tensor(30.6201)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3050)	phi BC Loss: tensor(1.4156e-05)	mu
BC Loss: tensor(0.1812)	NS PDE Loss: tensor(2.3934)	NS Div Free Loss: tensor(2.0743e-05)	
Iteration: 13200	Total Loss: tensor(67.9868)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.2800)	phi BC Loss: tensor(2.7786e-08)	mu
BC Loss: tensor(0.2079)	NS PDE Loss: tensor(6.0691)	NS Div Free Loss: tensor(4.7955e-06)	
Iteration: 13400	Total Loss: tensor(44.1754)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2974)	phi BC Loss: tensor(3.3878e-05)	mu
BC Loss: tensor(0.1898)	NS PDE Loss: tensor(3.7340)	NS Div Free Loss: tensor(2.0405e-06)	

Iteration: 13600	Total Loss: tensor(66.5764)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3018)	phi BC Loss: tensor(4.0101e-05)	mu
BC Loss: tensor(0.1845)	NS PDE Loss: tensor(5.9822)	NS Div Free Loss: tensor(8.2346e-07)	
Iteration: 13800	Total Loss: tensor(40.0231)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.2791)	phi BC Loss: tensor(2.5056e-05)	mu
BC Loss: tensor(0.1949)	NS PDE Loss: tensor(3.2807)	NS Div Free Loss: tensor(3.7915e-06)	
Iteration: 14000	Total Loss: tensor(53.1703)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2920)	phi BC Loss: tensor(4.0948e-08)	mu
BC Loss: tensor(0.2046)	NS PDE Loss: tensor(4.6161)	NS Div Free Loss: tensor(1.2990e-06)	
Iteration: 14200	Total Loss: tensor(160.2095)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2939)	phi BC Loss: tensor(1.3928e-05)	mu
BC Loss: tensor(0.1888)	NS PDE Loss: tensor(15.3366)	NS Div Free Loss: tensor(4.4010e-06)	
Iteration: 14400	Total Loss: tensor(390.7468)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3015)	phi BC Loss: tensor(8.3867e-05)	mu
BC Loss: tensor(0.1986)	NS PDE Loss: tensor(38.3910)	NS Div Free Loss: tensor(2.2730e-06)	
Iteration: 14600	Total Loss: tensor(43.7862)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3050)	phi BC Loss: tensor(5.2942e-05)	mu
BC Loss: tensor(0.1905)	NS PDE Loss: tensor(3.7039)	NS Div Free Loss: tensor(3.5900e-07)	
Iteration: 14800	Total Loss: tensor(55.0308)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2918)	phi BC Loss: tensor(1.7214e-05)	mu
BC Loss: tensor(0.2087)	NS PDE Loss: tensor(4.8003)	NS Div Free Loss: tensor(2.3605e-07)	
Iteration: 15000	Total Loss: tensor(65.1522)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.2722)	phi BC Loss: tensor(0.0008)	mu BC Loss:
tensor(0.1948)	NS PDE Loss: tensor(5.7582)	NS Div Free Loss: tensor(1.1646e-06)	
Iteration: 15200	Total Loss: tensor(620.9999)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.2377)	phi BC Loss: tensor(0.0002)	mu BC Loss:
tensor(0.2247)	NS PDE Loss: tensor(61.1440)	NS Div Free Loss: tensor(2.1234e-06)	
Iteration: 15400	Total Loss: tensor(38.4450)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.2901)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.1987)	NS PDE Loss: tensor(3.1432)	NS Div Free Loss: tensor(7.9470e-07)	
Iteration: 15600	Total Loss: tensor(30.1040)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.2975)	phi BC Loss: tensor(7.0730e-05)	mu
BC Loss: tensor(0.1874)	NS PDE Loss: tensor(2.3286)	NS Div Free Loss: tensor(2.5409e-06)	
Iteration: 15800	Total Loss: tensor(39.6751)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3022)	phi BC Loss: tensor(5.6115e-05)	mu
BC Loss: tensor(0.1815)	NS PDE Loss: tensor(3.2948)	NS Div Free Loss: tensor(2.8360e-06)	
Iteration: 16000	Total Loss: tensor(51.0250)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3031)	phi BC Loss: tensor(5.8653e-05)	mu
BC Loss: tensor(0.1782)	NS PDE Loss: tensor(4.4323)	NS Div Free Loss: tensor(2.0940e-06)	
Iteration: 16200	Total Loss: tensor(40.5479)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3035)	phi BC Loss: tensor(5.4001e-05)	mu
BC Loss: tensor(0.1762)	NS PDE Loss: tensor(3.3865)	NS Div Free Loss: tensor(3.1589e-06)	

Iteration: 16400	Total Loss: tensor(36.8278)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3044)	phi BC Loss: tensor(5.6947e-05)	mu
BC Loss: tensor(0.1739)	NS PDE Loss: tensor(3.0168)	NS Div Free Loss: tensor(5.4033e-06)	
Iteration: 16600	Total Loss: tensor(33.5050)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3052)	phi BC Loss: tensor(7.0680e-05)	mu
BC Loss: tensor(0.1715)	NS PDE Loss: tensor(2.6867)	NS Div Free Loss: tensor(9.6385e-06)	
Iteration: 16800	Total Loss: tensor(125.1537)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2929)	phi BC Loss: tensor(2.6098e-08)	mu
BC Loss: tensor(0.1764)	NS PDE Loss: tensor(11.8296)	NS Div Free Loss: tensor(1.7157e-06)	
Iteration: 17000	Total Loss: tensor(55.8397)		
IC Loss: tensor(0.0252)	u BC Loss: tensor(0.3203)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.1882)	NS PDE Loss: tensor(2.8145)	NS Div Free Loss: tensor(1.3780e-06)	
Iteration: 17200	Total Loss: tensor(370.7518)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.2522)	phi BC Loss: tensor(0.0013)	mu BC Loss:
tensor(0.2021)	NS PDE Loss: tensor(36.2459)	NS Div Free Loss: tensor(9.2931e-06)	
Iteration: 17400	Total Loss: tensor(45.5637)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.2774)	phi BC Loss: tensor(0.0010)	mu BC Loss:
tensor(0.1938)	NS PDE Loss: tensor(3.8231)	NS Div Free Loss: tensor(1.8552e-07)	
Iteration: 17600	Total Loss: tensor(200.6335)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.2758)	phi BC Loss: tensor(0.0004)	mu BC Loss:
tensor(0.1910)	NS PDE Loss: tensor(19.3344)	NS Div Free Loss: tensor(1.1601e-06)	
Iteration: 17800	Total Loss: tensor(70.5013)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.2808)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.1908)	NS PDE Loss: tensor(6.3292)	NS Div Free Loss: tensor(6.7176e-07)	
Iteration: 18000	Total Loss: tensor(143.4476)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.2829)	phi BC Loss: tensor(0.0003)	mu BC Loss:
tensor(0.1893)	NS PDE Loss: tensor(13.6296)	NS Div Free Loss: tensor(1.8276e-06)	
Iteration: 18200	Total Loss: tensor(396.8157)		
IC Loss: tensor(0.0107)	u BC Loss: tensor(0.2015)	phi BC Loss: tensor(1.4059e-05)	mu
BC Loss: tensor(0.2245)	NS PDE Loss: tensor(38.3963)	NS Div Free Loss: tensor(4.4787e-05)	
Iteration: 18400	Total Loss: tensor(21.0572)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3073)	phi BC Loss: tensor(3.2475e-05)	mu
BC Loss: tensor(0.2114)	NS PDE Loss: tensor(1.4211)	NS Div Free Loss: tensor(2.1583e-07)	
Iteration: 18600	Total Loss: tensor(31.6979)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.3006)	phi BC Loss: tensor(7.7534e-06)	mu
BC Loss: tensor(0.1773)	NS PDE Loss: tensor(2.4969)	NS Div Free Loss: tensor(7.6164e-08)	
Iteration: 18800	Total Loss: tensor(273.7857)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.2906)	phi BC Loss: tensor(5.6380e-09)	mu
BC Loss: tensor(0.1872)	NS PDE Loss: tensor(26.6928)	NS Div Free Loss: tensor(3.5873e-06)	
Iteration: 19000	Total Loss: tensor(79.2236)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.2775)	phi BC Loss: tensor(1.9806e-08)	mu
BC Loss: tensor(0.1949)	NS PDE Loss: tensor(7.1947)	NS Div Free Loss: tensor(8.0137e-06)	

```

Iteration: 19200      Total Loss: tensor(89.3655)
IC Loss:  tensor(0.0103)      u BC Loss:  tensor(0.2074)      phi BC Loss:  tensor(5.3373e-08)      mu
BC Loss:  tensor(0.2996)      NS PDE Loss:  tensor(7.6545)      NS Div Free Loss:  tensor(9.7663e-08)
Iteration: 19400      Total Loss: tensor(113.1129)
IC Loss:  tensor(0.0101)      u BC Loss:  tensor(0.2078)      phi BC Loss:  tensor(4.2393e-07)      mu
BC Loss:  tensor(0.3421)      NS PDE Loss:  tensor(10.0259)      NS Div Free Loss:  tensor(5.5093e-08)
Iteration: 19600      Total Loss: tensor(82.7247)
IC Loss:  tensor(0.0047)      u BC Loss:  tensor(0.2831)      phi BC Loss:  tensor(4.4628e-08)      mu
BC Loss:  tensor(0.2948)      NS PDE Loss:  tensor(7.5093)      NS Div Free Loss:  tensor(2.0038e-05)
Iteration: 19800      Total Loss: tensor(144.2656)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(0.3064)      phi BC Loss:  tensor(0.0002)      mu BC Loss:
tensor(0.2207) NS PDE Loss:  tensor(13.7393) NS Div Free Loss:  tensor(3.4477e-06)
Iteration: 20000      Total Loss: tensor(38.3397)
IC Loss:  tensor(0.0050)      u BC Loss:  tensor(0.2778)      phi BC Loss:  tensor(7.2803e-05)      mu
BC Loss:  tensor(0.1942)      NS PDE Loss:  tensor(3.1004)      NS Div Free Loss:  tensor(3.2874e-06)
Current Final Time: 0.5 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(48.1562)
IC Loss:  tensor(0.0054)      u BC Loss:  tensor(0.4041)      phi BC Loss:  tensor(4.0611e-05)      mu
BC Loss:  tensor(0.3715)      NS PDE Loss:  tensor(3.8831)      NS Div Free Loss:  tensor(7.8303e-07)
Iteration: 400 Total Loss: tensor(128.8782)
IC Loss:  tensor(0.0051)      u BC Loss:  tensor(0.4240)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.3592) NS PDE Loss:  tensor(11.9888) NS Div Free Loss:  tensor(1.2693e-06)
Iteration: 600 Total Loss: tensor(376.3881)
IC Loss:  tensor(0.0050)      u BC Loss:  tensor(0.4241)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.3454) NS PDE Loss:  tensor(36.7527) NS Div Free Loss:  tensor(2.4736e-06)
Iteration: 800 Total Loss: tensor(164.2775)
IC Loss:  tensor(0.0049)      u BC Loss:  tensor(0.4188)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.3449) NS PDE Loss:  tensor(15.5512) NS Div Free Loss:  tensor(4.4029e-08)
Iteration: 1000      Total Loss: tensor(50.2334)
IC Loss:  tensor(0.0046)      u BC Loss:  tensor(0.4342)      phi BC Loss:  tensor(1.5518e-05)      mu
BC Loss:  tensor(0.3266)      NS PDE Loss:  tensor(4.1822)      NS Div Free Loss:  tensor(1.1913e-07)
Iteration: 1200      Total Loss: tensor(33.8636)
IC Loss:  tensor(0.0044)      u BC Loss:  tensor(0.4477)      phi BC Loss:  tensor(2.5596e-05)      mu
BC Loss:  tensor(0.3135)      NS PDE Loss:  tensor(2.5707)      NS Div Free Loss:  tensor(1.0240e-08)
Iteration: 1400      Total Loss: tensor(43.0701)
IC Loss:  tensor(0.0043)      u BC Loss:  tensor(0.4473)      phi BC Loss:  tensor(6.5758e-05)      mu
BC Loss:  tensor(0.3107)      NS PDE Loss:  tensor(3.4942)      NS Div Free Loss:  tensor(1.5135e-08)
Iteration: 1600      Total Loss: tensor(64.0193)
IC Loss:  tensor(0.0043)      u BC Loss:  tensor(0.4494)      phi BC Loss:  tensor(9.8330e-05)      mu
BC Loss:  tensor(0.3090)      NS PDE Loss:  tensor(5.5952)      NS Div Free Loss:  tensor(3.3300e-06)
Iteration: 1800      Total Loss: tensor(122.4630)
IC Loss:  tensor(0.0049)      u BC Loss:  tensor(0.4198)      phi BC Loss:  tensor(1.4247e-09)      mu

```

BC Loss: tensor(0.3178)	NS PDE Loss: tensor(11.3854)	NS Div Free Loss: tensor(4.7755e-06)	
Iteration: 2000	Total Loss: tensor(312.6766)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.4237)	phi BC Loss: tensor(7.0407e-05)	mu
BC Loss: tensor(0.3323)	NS PDE Loss: tensor(30.3990)	NS Div Free Loss: tensor(2.5343e-06)	
Iteration: 2200	Total Loss: tensor(50.0404)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4358)	phi BC Loss: tensor(8.8007e-11)	mu
BC Loss: tensor(0.3186)	NS PDE Loss: tensor(4.1699)	NS Div Free Loss: tensor(8.1645e-07)	
Iteration: 2400	Total Loss: tensor(53.5072)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4421)	phi BC Loss: tensor(1.2572e-09)	mu
BC Loss: tensor(0.3059)	NS PDE Loss: tensor(4.5318)	NS Div Free Loss: tensor(3.0498e-06)	
Iteration: 2600	Total Loss: tensor(37.5014)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4479)	phi BC Loss: tensor(1.3124e-09)	mu
BC Loss: tensor(0.2974)	NS PDE Loss: tensor(2.9412)	NS Div Free Loss: tensor(4.2913e-06)	
Iteration: 2800	Total Loss: tensor(27.0182)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4539)	phi BC Loss: tensor(4.2110e-09)	mu
BC Loss: tensor(0.2927)	NS PDE Loss: tensor(1.9016)	NS Div Free Loss: tensor(9.5816e-06)	
Iteration: 3000	Total Loss: tensor(69.4632)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.4419)	phi BC Loss: tensor(2.1314e-08)	mu
BC Loss: tensor(0.3046)	NS PDE Loss: tensor(6.1268)	NS Div Free Loss: tensor(1.5472e-08)	
Iteration: 3200	Total Loss: tensor(37.8915)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4256)	phi BC Loss: tensor(1.0897e-07)	mu
BC Loss: tensor(0.3122)	NS PDE Loss: tensor(2.9378)	NS Div Free Loss: tensor(7.3712e-07)	
Iteration: 3400	Total Loss: tensor(356.3503)		
IC Loss: tensor(0.0070)	u BC Loss: tensor(0.3724)	phi BC Loss: tensor(1.7978e-07)	mu
BC Loss: tensor(0.3520)	NS PDE Loss: tensor(34.5723)	NS Div Free Loss: tensor(1.2310e-05)	
Iteration: 3600	Total Loss: tensor(210.9350)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4505)	phi BC Loss: tensor(2.5757e-07)	mu
BC Loss: tensor(0.2964)	NS PDE Loss: tensor(20.2925)	NS Div Free Loss: tensor(4.6316e-06)	
Iteration: 3800	Total Loss: tensor(108.4969)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.3941)	phi BC Loss: tensor(3.5023e-07)	mu
BC Loss: tensor(0.3159)	NS PDE Loss: tensor(9.8990)	NS Div Free Loss: tensor(8.9950e-06)	
Iteration: 4000	Total Loss: tensor(350.1561)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.3972)	phi BC Loss: tensor(5.9667e-07)	mu
BC Loss: tensor(0.3154)	NS PDE Loss: tensor(34.0618)	NS Div Free Loss: tensor(1.3578e-06)	
Iteration: 4200	Total Loss: tensor(26.2447)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4530)	phi BC Loss: tensor(3.1019e-07)	mu
BC Loss: tensor(0.3005)	NS PDE Loss: tensor(1.8229)	NS Div Free Loss: tensor(3.2989e-07)	
Iteration: 4400	Total Loss: tensor(458.4509)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.4319)	phi BC Loss: tensor(1.9079e-09)	mu
BC Loss: tensor(0.3135)	NS PDE Loss: tensor(44.9979)	NS Div Free Loss: tensor(1.7273e-06)	
Iteration: 4600	Total Loss: tensor(173.5662)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4366)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.2968)	NS PDE Loss:	tensor(16.5342)	NS Div Free Loss:	tensor(4.2828e-06)	
Iteration: 4800	Total Loss:	tensor(314.9746)			
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.4406)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3010)	NS PDE Loss:	tensor(30.6749)	NS Div Free Loss:	tensor(8.4002e-08)	
Iteration: 5000	Total Loss:	tensor(39.1124)			
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.4221)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3025)	NS PDE Loss:	tensor(3.0514)	NS Div Free Loss:	tensor(1.0865e-06)	
Iteration: 5200	Total Loss:	tensor(73.8152)			
IC Loss: tensor(0.0068)	u BC Loss: tensor(0.3809)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3299)	NS PDE Loss:	tensor(6.3503)	NS Div Free Loss:	tensor(1.9826e-06)	
Iteration: 5400	Total Loss:	tensor(38.9445)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4526)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3000)	NS PDE Loss:	tensor(3.0883)	NS Div Free Loss:	tensor(1.5255e-07)	
Iteration: 5600	Total Loss:	tensor(49.5421)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4528)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2998)	NS PDE Loss:	tensor(4.1476)	NS Div Free Loss:	tensor(6.1980e-07)	
Iteration: 5800	Total Loss:	tensor(139.9253)			
IC Loss: tensor(0.0059)	u BC Loss: tensor(0.3964)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2993)	NS PDE Loss:	tensor(13.0501)	NS Div Free Loss:	tensor(6.0368e-06)	
Iteration: 6000	Total Loss:	tensor(67.8368)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4473)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2957)	NS PDE Loss:	tensor(5.9774)	NS Div Free Loss:	tensor(9.6508e-07)	
Iteration: 6200	Total Loss:	tensor(46.1804)			
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4334)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3076)	NS PDE Loss:	tensor(3.7872)	NS Div Free Loss:	tensor(6.0284e-07)	
Iteration: 6400	Total Loss:	tensor(34.9714)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4459)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2890)	NS PDE Loss:	tensor(2.6930)	NS Div Free Loss:	tensor(2.7525e-07)	
Iteration: 6600	Total Loss:	tensor(38.4596)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4507)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2806)	NS PDE Loss:	tensor(3.0508)	NS Div Free Loss:	tensor(9.4782e-07)	
Iteration: 6800	Total Loss:	tensor(68.0818)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4516)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2773)	NS PDE Loss:	tensor(6.0160)	NS Div Free Loss:	tensor(1.0558e-06)	
Iteration: 7000	Total Loss:	tensor(22.1253)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4542)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.2752)	NS PDE Loss:	tensor(1.4212)	NS Div Free Loss:	tensor(6.1428e-07)	
Iteration: 7200	Total Loss:	tensor(59.8564)			
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4334)	phi BC Loss: tensor(0.)		mu BC Loss:	
tensor(0.3005)	NS PDE Loss:	tensor(5.1539)	NS Div Free Loss:	tensor(1.6093e-06)	
Iteration: 7400	Total Loss:	tensor(55.2517)			
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.4402)	phi BC Loss: tensor(0.)		mu BC Loss:	

tensor(0.2874)	NS PDE Loss: tensor(4.7127)	NS Div Free Loss: tensor(5.9747e-06)	
Iteration: 7600	Total Loss: tensor(106.7383)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4533)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2789)	NS PDE Loss: tensor(9.8773)	NS Div Free Loss: tensor(1.4337e-06)	
Iteration: 7800	Total Loss: tensor(74.6333)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.4061)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3116)	NS PDE Loss: tensor(6.5557)	NS Div Free Loss: tensor(2.2951e-06)	
Iteration: 8000	Total Loss: tensor(80.0686)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.4118)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3057)	NS PDE Loss: tensor(7.1226)	NS Div Free Loss: tensor(5.6219e-06)	
Iteration: 8200	Total Loss: tensor(74.7928)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.4241)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3000)	NS PDE Loss: tensor(6.6259)	NS Div Free Loss: tensor(5.4200e-07)	
Iteration: 8400	Total Loss: tensor(67.9198)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.4373)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2900)	NS PDE Loss: tensor(5.9753)	NS Div Free Loss: tensor(2.5487e-06)	
Iteration: 8600	Total Loss: tensor(51.4333)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4445)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2822)	NS PDE Loss: tensor(4.3413)	NS Div Free Loss: tensor(3.1768e-07)	
Iteration: 8800	Total Loss: tensor(42.9859)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4491)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2746)	NS PDE Loss: tensor(3.5055)	NS Div Free Loss: tensor(3.6755e-07)	
Iteration: 9000	Total Loss: tensor(36.5849)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4556)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2692)	NS PDE Loss: tensor(2.8704)	NS Div Free Loss: tensor(4.1140e-07)	
Iteration: 9200	Total Loss: tensor(230.2801)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.3826)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3358)	NS PDE Loss: tensor(22.0252)	NS Div Free Loss: tensor(2.5073e-06)	
Iteration: 9400	Total Loss: tensor(58.9224)		
IC Loss: tensor(0.0090)	u BC Loss: tensor(0.3456)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3742)	NS PDE Loss: tensor(4.6296)	NS Div Free Loss: tensor(3.9190e-08)	
Iteration: 9600	Total Loss: tensor(82.3310)		
IC Loss: tensor(0.0082)	u BC Loss: tensor(0.3554)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3807)	NS PDE Loss: tensor(7.0414)	NS Div Free Loss: tensor(5.0827e-08)	
Iteration: 9800	Total Loss: tensor(88.9206)		
IC Loss: tensor(0.0056)	u BC Loss: tensor(0.4040)	phi BC Loss: tensor(5.4962e-13)	mu
BC Loss: tensor(0.3299)	NS PDE Loss: tensor(7.9697)	NS Div Free Loss: tensor(5.9189e-06)	
Iteration: 10000	Total Loss: tensor(141.3924)		
IC Loss: tensor(0.0060)	u BC Loss: tensor(0.3934)	phi BC Loss: tensor(1.2694e-11)	mu
BC Loss: tensor(0.3117)	NS PDE Loss: tensor(13.1907)	NS Div Free Loss: tensor(6.0991e-06)	
Iteration: 10200	Total Loss: tensor(45.3235)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4423)	phi BC Loss: tensor(2.0709e-07)	mu

BC Loss: tensor(0.2935)	NS PDE Loss: tensor(3.7225)	NS Div Free Loss: tensor(7.6508e-08)	
Iteration: 10400	Total Loss: tensor(41.9967)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4487)	phi BC Loss: tensor(1.0271e-07)	mu
BC Loss: tensor(0.2822)	NS PDE Loss: tensor(3.4053)	NS Div Free Loss: tensor(5.3651e-07)	
Iteration: 10600	Total Loss: tensor(27.9842)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4532)	phi BC Loss: tensor(7.6334e-09)	mu
BC Loss: tensor(0.2734)	NS PDE Loss: tensor(2.0109)	NS Div Free Loss: tensor(4.5444e-07)	
Iteration: 10800	Total Loss: tensor(24.6061)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4560)	phi BC Loss: tensor(5.4848e-08)	mu
BC Loss: tensor(0.2679)	NS PDE Loss: tensor(1.6808)	NS Div Free Loss: tensor(2.9431e-07)	
Iteration: 11000	Total Loss: tensor(29.1368)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4555)	phi BC Loss: tensor(4.8561e-08)	mu
BC Loss: tensor(0.2647)	NS PDE Loss: tensor(2.1355)	NS Div Free Loss: tensor(5.1022e-07)	
Iteration: 11200	Total Loss: tensor(23.3522)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4560)	phi BC Loss: tensor(1.6842e-08)	mu
BC Loss: tensor(0.2610)	NS PDE Loss: tensor(1.5597)	NS Div Free Loss: tensor(7.8254e-07)	
Iteration: 11400	Total Loss: tensor(38.0999)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4569)	phi BC Loss: tensor(2.2776e-07)	mu
BC Loss: tensor(0.2567)	NS PDE Loss: tensor(3.0368)	NS Div Free Loss: tensor(1.2001e-06)	
Iteration: 11600	Total Loss: tensor(70.9186)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4301)	phi BC Loss: tensor(1.7477e-11)	mu
BC Loss: tensor(0.2750)	NS PDE Loss: tensor(6.2764)	NS Div Free Loss: tensor(1.3352e-05)	
Iteration: 11800	Total Loss: tensor(47.0967)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4428)	phi BC Loss: tensor(1.3733e-05)	mu
BC Loss: tensor(0.2628)	NS PDE Loss: tensor(3.9188)	NS Div Free Loss: tensor(1.1290e-05)	
Iteration: 12000	Total Loss: tensor(168.1041)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4624)	phi BC Loss: tensor(3.1997e-07)	mu
BC Loss: tensor(0.2595)	NS PDE Loss: tensor(16.0339)	NS Div Free Loss: tensor(8.8766e-07)	
Iteration: 12200	Total Loss: tensor(151.2722)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4210)	phi BC Loss: tensor(1.1211e-08)	mu
BC Loss: tensor(0.2692)	NS PDE Loss: tensor(14.2974)	NS Div Free Loss: tensor(1.5382e-05)	
Iteration: 12400	Total Loss: tensor(45.7795)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.4596)	phi BC Loss: tensor(1.1734e-06)	mu
BC Loss: tensor(0.2571)	NS PDE Loss: tensor(3.8047)	NS Div Free Loss: tensor(5.2927e-07)	
Iteration: 12600	Total Loss: tensor(58.4462)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4531)	phi BC Loss: tensor(1.9324e-06)	mu
BC Loss: tensor(0.2578)	NS PDE Loss: tensor(5.0662)	NS Div Free Loss: tensor(1.2113e-07)	
Iteration: 12800	Total Loss: tensor(33.3952)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4561)	phi BC Loss: tensor(1.6557e-05)	mu
BC Loss: tensor(0.2527)	NS PDE Loss: tensor(2.5667)	NS Div Free Loss: tensor(1.8783e-07)	
Iteration: 13000	Total Loss: tensor(42.9673)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4560)	phi BC Loss: tensor(5.2178e-05)	mu

BC Loss: tensor(0.2494)	NS PDE Loss: tensor(3.5244)	NS Div Free Loss: tensor(1.6598e-06)	
Iteration: 13200	Total Loss: tensor(106.2550)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4576)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2569)	NS PDE Loss: tensor(9.8496)	NS Div Free Loss: tensor(1.7873e-06)	
Iteration: 13400	Total Loss: tensor(50.5112)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4505)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2540)	NS PDE Loss: tensor(4.2710)	NS Div Free Loss: tensor(2.8829e-06)	
Iteration: 13600	Total Loss: tensor(43.5500)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4472)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2520)	NS PDE Loss: tensor(3.5707)	NS Div Free Loss: tensor(6.6921e-06)	
Iteration: 13800	Total Loss: tensor(38.5887)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4509)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2539)	NS PDE Loss: tensor(3.0800)	NS Div Free Loss: tensor(3.9516e-07)	
Iteration: 14000	Total Loss: tensor(36.7553)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4551)	phi BC Loss: tensor(2.2455e-13)	mu
BC Loss: tensor(0.2496)	NS PDE Loss: tensor(2.9030)	NS Div Free Loss: tensor(4.2220e-07)	
Iteration: 14200	Total Loss: tensor(34.4425)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4561)	phi BC Loss: tensor(1.1973e-12)	mu
BC Loss: tensor(0.2451)	NS PDE Loss: tensor(2.6743)	NS Div Free Loss: tensor(4.9208e-06)	
Iteration: 14400	Total Loss: tensor(23.0172)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4560)	phi BC Loss: tensor(1.8025e-11)	mu
BC Loss: tensor(0.2444)	NS PDE Loss: tensor(1.5336)	NS Div Free Loss: tensor(2.0032e-06)	
Iteration: 14600	Total Loss: tensor(22.5978)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4563)	phi BC Loss: tensor(1.8136e-05)	mu
BC Loss: tensor(0.2411)	NS PDE Loss: tensor(1.4939)	NS Div Free Loss: tensor(4.1465e-07)	
Iteration: 14800	Total Loss: tensor(35.2912)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4568)	phi BC Loss: tensor(3.8332e-05)	mu
BC Loss: tensor(0.2389)	NS PDE Loss: tensor(2.7647)	NS Div Free Loss: tensor(5.3865e-07)	
Iteration: 15000	Total Loss: tensor(39.4758)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4575)	phi BC Loss: tensor(3.4125e-05)	mu
BC Loss: tensor(0.2361)	NS PDE Loss: tensor(3.1852)	NS Div Free Loss: tensor(1.0653e-06)	
Iteration: 15200	Total Loss: tensor(69.0117)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.3863)	phi BC Loss: tensor(4.1127e-07)	mu
BC Loss: tensor(0.2869)	NS PDE Loss: tensor(5.9110)	NS Div Free Loss: tensor(2.8967e-05)	
Iteration: 15400	Total Loss: tensor(38.2002)		
IC Loss: tensor(0.0067)	u BC Loss: tensor(0.3801)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3036)	NS PDE Loss: tensor(2.8044)	NS Div Free Loss: tensor(1.2001e-05)	
Iteration: 15600	Total Loss: tensor(40.0369)		
IC Loss: tensor(0.0068)	u BC Loss: tensor(0.3782)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3217)	NS PDE Loss: tensor(2.9699)	NS Div Free Loss: tensor(9.6697e-06)	
Iteration: 15800	Total Loss: tensor(44.6299)		
IC Loss: tensor(0.0069)	u BC Loss: tensor(0.3770)	phi BC Loss: tensor(1.0376e-13)	mu

BC Loss: tensor(0.3280)	NS PDE Loss: tensor(3.4206)	NS Div Free Loss: tensor(1.0575e-05)	
Iteration: 16000	Total Loss: tensor(342.0753)		
IC Loss: tensor(0.0069)	u BC Loss: tensor(0.3749)	phi BC Loss: tensor(4.3276e-13)	mu
BC Loss: tensor(0.3289)	NS PDE Loss: tensor(33.1641)	NS Div Free Loss: tensor(1.6945e-05)	
Iteration: 16200	Total Loss: tensor(125.8833)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.3732)	phi BC Loss: tensor(1.0290e-12)	mu
BC Loss: tensor(0.3230)	NS PDE Loss: tensor(11.5342)	NS Div Free Loss: tensor(1.2827e-05)	
Iteration: 16400	Total Loss: tensor(77.7338)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.3614)	phi BC Loss: tensor(8.1351e-12)	mu
BC Loss: tensor(0.3666)	NS PDE Loss: tensor(6.6382)	NS Div Free Loss: tensor(4.4965e-05)	
Iteration: 16600	Total Loss: tensor(129.8417)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4394)	phi BC Loss: tensor(1.1035e-13)	mu
BC Loss: tensor(0.2712)	NS PDE Loss: tensor(12.1855)	NS Div Free Loss: tensor(2.3034e-05)	
Iteration: 16800	Total Loss: tensor(81.9504)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4227)	phi BC Loss: tensor(4.3014e-13)	mu
BC Loss: tensor(0.2793)	NS PDE Loss: tensor(7.3615)	NS Div Free Loss: tensor(5.4610e-06)	
Iteration: 17000	Total Loss: tensor(55.1696)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.4278)	phi BC Loss: tensor(2.6718e-11)	mu
BC Loss: tensor(0.2772)	NS PDE Loss: tensor(4.6905)	NS Div Free Loss: tensor(7.2605e-07)	
Iteration: 17200	Total Loss: tensor(128.2697)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.4338)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2732)	NS PDE Loss: tensor(12.0156)	NS Div Free Loss: tensor(8.0473e-06)	
Iteration: 17400	Total Loss: tensor(75.9503)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.4463)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2806)	NS PDE Loss: tensor(6.7963)	NS Div Free Loss: tensor(9.9595e-07)	
Iteration: 17600	Total Loss: tensor(142.0275)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4234)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2692)	NS PDE Loss: tensor(13.3767)	NS Div Free Loss: tensor(5.7455e-06)	
Iteration: 17800	Total Loss: tensor(82.2535)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4235)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2726)	NS PDE Loss: tensor(7.3972)	NS Div Free Loss: tensor(1.4239e-06)	
Iteration: 18000	Total Loss: tensor(667.8244)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.4354)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2556)	NS PDE Loss: tensor(65.9863)	NS Div Free Loss: tensor(2.5818e-05)	
Iteration: 18200	Total Loss: tensor(186.7695)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4502)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2589)	NS PDE Loss: tensor(17.8949)	NS Div Free Loss: tensor(6.1093e-06)	
Iteration: 18400	Total Loss: tensor(160.4538)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4412)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2603)	NS PDE Loss: tensor(15.2618)	NS Div Free Loss: tensor(1.0408e-05)	
Iteration: 18600	Total Loss: tensor(63.5530)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.4221)	phi BC Loss: tensor(1.5209e-07)	mu

BC Loss: tensor(0.2707)	NS PDE Loss: tensor(5.5130)	NS Div Free Loss: tensor(2.5140e-06)	
Iteration: 18800	Total Loss: tensor(33.7683)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.4247)	phi BC Loss: tensor(1.5736e-06)	mu
BC Loss: tensor(0.2702)	NS PDE Loss: tensor(2.5459)	NS Div Free Loss: tensor(2.6983e-07)	
Iteration: 19000	Total Loss: tensor(14.4523)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.4301)	phi BC Loss: tensor(1.1043e-05)	mu
BC Loss: tensor(0.2596)	NS PDE Loss: tensor(0.6327)	NS Div Free Loss: tensor(9.5266e-06)	
Iteration: 19200	Total Loss: tensor(104.1795)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.4291)	phi BC Loss: tensor(9.0117e-06)	mu
BC Loss: tensor(0.2659)	NS PDE Loss: tensor(9.5974)	NS Div Free Loss: tensor(9.7683e-06)	
Iteration: 19400	Total Loss: tensor(43.3892)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4471)	phi BC Loss: tensor(6.0940e-13)	mu
BC Loss: tensor(0.2647)	NS PDE Loss: tensor(3.5520)	NS Div Free Loss: tensor(1.3054e-05)	
Iteration: 19600	Total Loss: tensor(38.7711)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.4505)	phi BC Loss: tensor(5.6800e-12)	mu
BC Loss: tensor(0.2617)	NS PDE Loss: tensor(3.0954)	NS Div Free Loss: tensor(1.0792e-05)	
Iteration: 19800	Total Loss: tensor(30.1823)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4531)	phi BC Loss: tensor(6.5907e-11)	mu
BC Loss: tensor(0.2470)	NS PDE Loss: tensor(2.2456)	NS Div Free Loss: tensor(6.8320e-07)	
Iteration: 20000	Total Loss: tensor(34.7592)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.4542)	phi BC Loss: tensor(2.5138e-06)	mu
BC Loss: tensor(0.2422)	NS PDE Loss: tensor(2.7075)	NS Div Free Loss: tensor(2.2273e-07)	
Current Final Time: 0.6 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(241.8868)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(0.4441)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3591)	NS PDE Loss: tensor(23.0180)	NS Div Free Loss: tensor(8.5490e-05)	
Iteration: 400	Total Loss: tensor(118.6641)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.4949)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3495)	NS PDE Loss: tensor(10.9230)	NS Div Free Loss: tensor(3.6641e-05)	
Iteration: 600	Total Loss: tensor(69.3662)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.4992)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3389)	NS PDE Loss: tensor(6.0084)	NS Div Free Loss: tensor(2.8787e-05)	
Iteration: 800	Total Loss: tensor(161.6250)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.5087)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3346)	NS PDE Loss: tensor(15.2487)	NS Div Free Loss: tensor(1.3051e-05)	
Iteration: 1000	Total Loss: tensor(46.3049)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.5096)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3270)	NS PDE Loss: tensor(3.7253)	NS Div Free Loss: tensor(1.5180e-05)	
Iteration: 1200	Total Loss: tensor(234.3990)		
IC Loss: tensor(0.0066)	u BC Loss: tensor(0.4623)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3323)	NS PDE Loss: tensor(22.3860)	NS Div Free Loss: tensor(7.8983e-05)	
Iteration: 1400	Total Loss: tensor(360.6809)		

IC Loss: tensor(0.0064)	u BC Loss: tensor(0.4723)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3388)	NS PDE Loss: tensor(35.0226)	NS Div Free Loss: tensor(3.6365e-05)	
Iteration: 1600	Total Loss: tensor(37.6793)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.5124)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3261)	NS PDE Loss: tensor(2.8719)	NS Div Free Loss: tensor(3.0867e-05)	
Iteration: 1800	Total Loss: tensor(431.5877)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.4774)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3489)	NS PDE Loss: tensor(42.1310)	NS Div Free Loss: tensor(1.1258e-05)	
Iteration: 2000	Total Loss: tensor(76.8311)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.5033)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3539)	NS PDE Loss: tensor(6.7512)	NS Div Free Loss: tensor(8.9348e-06)	
Iteration: 2200	Total Loss: tensor(51.3714)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.5224)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3167)	NS PDE Loss: tensor(4.2657)	NS Div Free Loss: tensor(3.2611e-05)	
Iteration: 2400	Total Loss: tensor(557.4833)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.4782)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3382)	NS PDE Loss: tensor(54.7177)	NS Div Free Loss: tensor(1.0411e-05)	
Iteration: 2600	Total Loss: tensor(583.9214)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(0.4556)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3828)	NS PDE Loss: tensor(57.2363)	NS Div Free Loss: tensor(3.2835e-06)	
Iteration: 2800	Total Loss: tensor(557.2431)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.4582)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3963)	NS PDE Loss: tensor(54.5785)	NS Div Free Loss: tensor(2.5030e-06)	
Iteration: 3000	Total Loss: tensor(67.4504)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.4676)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3956)	NS PDE Loss: tensor(5.6657)	NS Div Free Loss: tensor(5.0909e-06)	
Iteration: 3200	Total Loss: tensor(1249.5029)		
IC Loss: tensor(0.0066)	u BC Loss: tensor(0.4673)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3833)	NS PDE Loss: tensor(123.8678)	NS Div Free Loss: tensor(3.0446e-05)	
Iteration: 3400	Total Loss: tensor(114.1940)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5142)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3465)	NS PDE Loss: tensor(10.5182)	NS Div Free Loss: tensor(4.9575e-05)	
Iteration: 3600	Total Loss: tensor(36.6533)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5369)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3203)	NS PDE Loss: tensor(2.8042)	NS Div Free Loss: tensor(4.2915e-05)	
Iteration: 3800	Total Loss: tensor(40.3091)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5414)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3085)	NS PDE Loss: tensor(3.1805)	NS Div Free Loss: tensor(3.2033e-05)	
Iteration: 4000	Total Loss: tensor(39.2559)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5395)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2995)	NS PDE Loss: tensor(3.0820)	NS Div Free Loss: tensor(5.1056e-05)	
Iteration: 4200	Total Loss: tensor(531.4569)		

IC Loss: tensor(0.0071)	u BC Loss: tensor(0.4588)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3626)	NS PDE Loss: tensor(52.0201)	NS Div Free Loss: tensor(1.7360e-06)	
Iteration: 4400	Total Loss: tensor(526.3741)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.4586)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3936)	NS PDE Loss: tensor(51.4988)	NS Div Free Loss: tensor(1.4468e-06)	
Iteration: 4600	Total Loss: tensor(522.5278)		
IC Loss: tensor(0.0070)	u BC Loss: tensor(0.4611)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.4051)	NS PDE Loss: tensor(51.1225)	NS Div Free Loss: tensor(4.0762e-06)	
Iteration: 4800	Total Loss: tensor(356.8763)		
IC Loss: tensor(0.0068)	u BC Loss: tensor(0.4630)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.4083)	NS PDE Loss: tensor(34.5702)	NS Div Free Loss: tensor(4.8084e-06)	
Iteration: 5000	Total Loss: tensor(234.3935)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.5027)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3512)	NS PDE Loss: tensor(22.5072)	NS Div Free Loss: tensor(2.6178e-06)	
Iteration: 5200	Total Loss: tensor(43.5360)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.5058)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3366)	NS PDE Loss: tensor(3.4447)	NS Div Free Loss: tensor(1.3546e-05)	
Iteration: 5400	Total Loss: tensor(34.8684)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.4687)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3493)	NS PDE Loss: tensor(2.4404)	NS Div Free Loss: tensor(2.7161e-06)	
Iteration: 5600	Total Loss: tensor(68.1976)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.5192)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3192)	NS PDE Loss: tensor(5.9459)	NS Div Free Loss: tensor(7.7790e-06)	
Iteration: 5800	Total Loss: tensor(159.4579)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5412)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3089)	NS PDE Loss: tensor(15.0972)	NS Div Free Loss: tensor(5.4699e-06)	
Iteration: 6000	Total Loss: tensor(446.1152)		
IC Loss: tensor(0.0078)	u BC Loss: tensor(0.4409)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3785)	NS PDE Loss: tensor(43.4198)	NS Div Free Loss: tensor(5.7299e-06)	
Iteration: 6200	Total Loss: tensor(169.2723)		
IC Loss: tensor(0.0067)	u BC Loss: tensor(0.4604)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3960)	NS PDE Loss: tensor(15.8298)	NS Div Free Loss: tensor(6.5104e-06)	
Iteration: 6400	Total Loss: tensor(11.4644)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5160)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3264)	NS PDE Loss: tensor(0.2615)	NS Div Free Loss: tensor(1.3844e-05)	
Iteration: 6600	Total Loss: tensor(36.0247)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.4802)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3224)	NS PDE Loss: tensor(2.6278)	NS Div Free Loss: tensor(2.0451e-05)	
Iteration: 6800	Total Loss: tensor(50.7508)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.5216)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3161)	NS PDE Loss: tensor(4.2067)	NS Div Free Loss: tensor(1.1902e-05)	
Iteration: 7000	Total Loss: tensor(36.6907)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5325)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3094)	NS PDE Loss: tensor(2.8184)	NS Div Free Loss: tensor(2.5633e-06)	
Iteration: 7200	Total Loss: tensor(27.0635)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5377)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2998)	NS PDE Loss: tensor(1.8664)	NS Div Free Loss: tensor(1.9637e-06)	
Iteration: 7400	Total Loss: tensor(34.4244)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5407)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2917)	NS PDE Loss: tensor(2.6092)	NS Div Free Loss: tensor(9.2268e-06)	
Iteration: 7600	Total Loss: tensor(33.9311)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5403)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2870)	NS PDE Loss: tensor(2.5624)	NS Div Free Loss: tensor(2.0502e-05)	
Iteration: 7800	Total Loss: tensor(35.9655)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5393)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2838)	NS PDE Loss: tensor(2.7655)	NS Div Free Loss: tensor(2.8932e-05)	
Iteration: 8000	Total Loss: tensor(43.3977)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5398)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2811)	NS PDE Loss: tensor(3.5114)	NS Div Free Loss: tensor(3.2426e-05)	
Iteration: 8200	Total Loss: tensor(40.5527)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5397)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2795)	NS PDE Loss: tensor(3.2278)	NS Div Free Loss: tensor(2.8069e-05)	
Iteration: 8400	Total Loss: tensor(45.2496)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5377)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2811)	NS PDE Loss: tensor(3.6965)	NS Div Free Loss: tensor(1.1268e-05)	
Iteration: 8600	Total Loss: tensor(43.1168)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5385)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2778)	NS PDE Loss: tensor(3.4863)	NS Div Free Loss: tensor(4.9883e-06)	
Iteration: 8800	Total Loss: tensor(40.4511)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5399)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2734)	NS PDE Loss: tensor(3.2240)	NS Div Free Loss: tensor(3.0447e-06)	
Iteration: 9000	Total Loss: tensor(625.4995)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5149)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2852)	NS PDE Loss: tensor(61.6917)	NS Div Free Loss: tensor(4.3442e-06)	
Iteration: 9200	Total Loss: tensor(312.3638)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.4998)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3065)	NS PDE Loss: tensor(30.3161)	NS Div Free Loss: tensor(2.2834e-07)	
Iteration: 9400	Total Loss: tensor(268.8178)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5422)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2856)	NS PDE Loss: tensor(26.0582)	NS Div Free Loss: tensor(2.9722e-06)	
Iteration: 9600	Total Loss: tensor(231.2261)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.4530)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3382)	NS PDE Loss: tensor(22.0212)	NS Div Free Loss: tensor(8.0134e-07)	
Iteration: 9800	Total Loss: tensor(210.0073)		

IC Loss: tensor(0.0070)	u BC Loss: tensor(0.4539)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3530)	NS PDE Loss: tensor(19.8983)	NS Div Free Loss: tensor(3.7217e-07)	
Iteration: 10000	Total Loss: tensor(37.4720)		
IC Loss: tensor(0.0062)	u BC Loss: tensor(0.4725)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3546)	NS PDE Loss: tensor(2.7177)	NS Div Free Loss: tensor(2.2233e-06)	
Iteration: 10200	Total Loss: tensor(409.4346)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(0.4463)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3701)	NS PDE Loss: tensor(39.7929)	NS Div Free Loss: tensor(4.0084e-06)	
Iteration: 10400	Total Loss: tensor(133.1403)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.4889)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3173)	NS PDE Loss: tensor(12.3611)	NS Div Free Loss: tensor(3.5534e-06)	
Iteration: 10600	Total Loss: tensor(131.1972)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.5177)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3043)	NS PDE Loss: tensor(12.2555)	NS Div Free Loss: tensor(8.6853e-07)	
Iteration: 10800	Total Loss: tensor(73.7926)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5100)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2939)	NS PDE Loss: tensor(6.5093)	NS Div Free Loss: tensor(1.1777e-06)	
Iteration: 11000	Total Loss: tensor(74.4006)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5110)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3089)	NS PDE Loss: tensor(6.5573)	NS Div Free Loss: tensor(1.3918e-05)	
Iteration: 11200	Total Loss: tensor(106.9541)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5075)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3086)	NS PDE Loss: tensor(9.8139)	NS Div Free Loss: tensor(1.1728e-05)	
Iteration: 11400	Total Loss: tensor(66.3045)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5095)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3077)	NS PDE Loss: tensor(5.7528)	NS Div Free Loss: tensor(1.5815e-05)	
Iteration: 11600	Total Loss: tensor(132.8766)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5171)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3084)	NS PDE Loss: tensor(12.4171)	NS Div Free Loss: tensor(2.9949e-05)	
Iteration: 11800	Total Loss: tensor(177.4436)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.4980)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.3041)	NS PDE Loss: tensor(16.8455)	NS Div Free Loss: tensor(5.1576e-07)	
Iteration: 12000	Total Loss: tensor(70.3419)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.5230)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.2976)	NS PDE Loss: tensor(6.1844)	NS Div Free Loss: tensor(1.3315e-06)	
Iteration: 12200	Total Loss: tensor(29.9069)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5317)	phi BC Loss: tensor(8.4801e-08)	mu
BC Loss: tensor(0.2841)	NS PDE Loss: tensor(2.1545)	NS Div Free Loss: tensor(1.2511e-06)	
Iteration: 12400	Total Loss: tensor(33.1025)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5345)	phi BC Loss: tensor(2.0770e-07)	mu
BC Loss: tensor(0.2763)	NS PDE Loss: tensor(2.4806)	NS Div Free Loss: tensor(2.3801e-06)	
Iteration: 12600	Total Loss: tensor(31.6186)		

IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5378)	phi BC Loss: tensor(1.1382e-07)	mu
BC Loss: tensor(0.2685)	NS PDE Loss: tensor(2.3386)	NS Div Free Loss: tensor(2.8092e-06)	
Iteration: 12800	Total Loss: tensor(62.9983)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5321)	phi BC Loss: tensor(4.2357e-08)	mu
BC Loss: tensor(0.2741)	NS PDE Loss: tensor(5.4716)	NS Div Free Loss: tensor(4.7005e-06)	
Iteration: 13000	Total Loss: tensor(283.2874)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(0.4844)	phi BC Loss: tensor(1.5814e-07)	mu
BC Loss: tensor(0.3009)	NS PDE Loss: tensor(27.3841)	NS Div Free Loss: tensor(1.5385e-06)	
Iteration: 13200	Total Loss: tensor(212.4617)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.5173)	phi BC Loss: tensor(6.5139e-08)	mu
BC Loss: tensor(0.2989)	NS PDE Loss: tensor(20.3896)	NS Div Free Loss: tensor(1.6561e-06)	
Iteration: 13400	Total Loss: tensor(20.7022)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5152)	phi BC Loss: tensor(3.4948e-08)	mu
BC Loss: tensor(0.2829)	NS PDE Loss: tensor(1.1989)	NS Div Free Loss: tensor(2.6767e-06)	
Iteration: 13600	Total Loss: tensor(22.1631)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5282)	phi BC Loss: tensor(7.8981e-08)	mu
BC Loss: tensor(0.2875)	NS PDE Loss: tensor(1.3744)	NS Div Free Loss: tensor(5.1304e-07)	
Iteration: 13800	Total Loss: tensor(15.6062)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5395)	phi BC Loss: tensor(9.4796e-09)	mu
BC Loss: tensor(0.2825)	NS PDE Loss: tensor(0.7318)	NS Div Free Loss: tensor(2.1880e-07)	
Iteration: 14000	Total Loss: tensor(88.5923)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.5221)	phi BC Loss: tensor(1.2556e-08)	mu
BC Loss: tensor(0.2791)	NS PDE Loss: tensor(8.0159)	NS Div Free Loss: tensor(3.4512e-06)	
Iteration: 14200	Total Loss: tensor(72.9120)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5334)	phi BC Loss: tensor(6.7975e-09)	mu
BC Loss: tensor(0.2737)	NS PDE Loss: tensor(6.4652)	NS Div Free Loss: tensor(3.7759e-07)	
Iteration: 14400	Total Loss: tensor(38.1888)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5380)	phi BC Loss: tensor(9.4590e-09)	mu
BC Loss: tensor(0.2668)	NS PDE Loss: tensor(3.0000)	NS Div Free Loss: tensor(3.1065e-07)	
Iteration: 14600	Total Loss: tensor(35.5191)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5401)	phi BC Loss: tensor(1.8871e-08)	mu
BC Loss: tensor(0.2605)	NS PDE Loss: tensor(2.7376)	NS Div Free Loss: tensor(3.6515e-06)	
Iteration: 14800	Total Loss: tensor(37.7444)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5395)	phi BC Loss: tensor(3.3602e-08)	mu
BC Loss: tensor(0.2573)	NS PDE Loss: tensor(2.9608)	NS Div Free Loss: tensor(1.0632e-05)	
Iteration: 15000	Total Loss: tensor(29.5485)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5434)	phi BC Loss: tensor(4.4403e-08)	mu
BC Loss: tensor(0.2564)	NS PDE Loss: tensor(2.1416)	NS Div Free Loss: tensor(7.1405e-06)	
Iteration: 15200	Total Loss: tensor(55.0160)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.4541)	phi BC Loss: tensor(6.9766e-08)	mu
BC Loss: tensor(0.3142)	NS PDE Loss: tensor(4.4002)	NS Div Free Loss: tensor(7.9114e-07)	
Iteration: 15400	Total Loss: tensor(89.9760)		

IC Loss: tensor(0.0077)	u BC Loss: tensor(0.4445)	phi BC Loss: tensor(3.5541e-08)	mu
BC Loss: tensor(0.3410)	NS PDE Loss: tensor(7.8344)	NS Div Free Loss: tensor(1.8649e-06)	
Iteration: 15600	Total Loss: tensor(95.3093)		
IC Loss: tensor(0.0073)	u BC Loss: tensor(0.4519)	phi BC Loss: tensor(2.2459e-08)	mu
BC Loss: tensor(0.3481)	NS PDE Loss: tensor(8.4028)	NS Div Free Loss: tensor(2.5558e-06)	
Iteration: 15800	Total Loss: tensor(59.4934)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.4526)	phi BC Loss: tensor(1.8586e-08)	mu
BC Loss: tensor(0.3512)	NS PDE Loss: tensor(4.8228)	NS Div Free Loss: tensor(2.2209e-06)	
Iteration: 16000	Total Loss: tensor(160.0108)		
IC Loss: tensor(0.0067)	u BC Loss: tensor(0.4621)	phi BC Loss: tensor(1.7499e-08)	mu
BC Loss: tensor(0.3464)	NS PDE Loss: tensor(14.9280)	NS Div Free Loss: tensor(1.7225e-06)	
Iteration: 16200	Total Loss: tensor(321.8357)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.4516)	phi BC Loss: tensor(4.2600e-09)	mu
BC Loss: tensor(0.3518)	NS PDE Loss: tensor(31.0733)	NS Div Free Loss: tensor(7.9274e-06)	
Iteration: 16400	Total Loss: tensor(57.2546)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5125)	phi BC Loss: tensor(3.2365e-12)	mu
BC Loss: tensor(0.2964)	NS PDE Loss: tensor(4.8564)	NS Div Free Loss: tensor(3.5523e-07)	
Iteration: 16600	Total Loss: tensor(38.0586)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.5078)	phi BC Loss: tensor(1.2863e-09)	mu
BC Loss: tensor(0.3018)	NS PDE Loss: tensor(2.9250)	NS Div Free Loss: tensor(2.5694e-06)	
Iteration: 16800	Total Loss: tensor(202.9701)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5153)	phi BC Loss: tensor(2.8801e-09)	mu
BC Loss: tensor(0.3019)	NS PDE Loss: tensor(19.4239)	NS Div Free Loss: tensor(1.5060e-05)	
Iteration: 17000	Total Loss: tensor(27.1112)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5151)	phi BC Loss: tensor(3.9706e-09)	mu
BC Loss: tensor(0.2964)	NS PDE Loss: tensor(1.8502)	NS Div Free Loss: tensor(2.0377e-06)	
Iteration: 17200	Total Loss: tensor(37.9872)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5367)	phi BC Loss: tensor(2.4621e-09)	mu
BC Loss: tensor(0.2950)	NS PDE Loss: tensor(2.9638)	NS Div Free Loss: tensor(1.5301e-07)	
Iteration: 17400	Total Loss: tensor(42.5389)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5289)	phi BC Loss: tensor(4.0760e-08)	mu
BC Loss: tensor(0.2861)	NS PDE Loss: tensor(3.4122)	NS Div Free Loss: tensor(4.6741e-07)	
Iteration: 17600	Total Loss: tensor(32.4064)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5430)	phi BC Loss: tensor(2.4618e-09)	mu
BC Loss: tensor(0.2722)	NS PDE Loss: tensor(2.4195)	NS Div Free Loss: tensor(2.5774e-07)	
Iteration: 17800	Total Loss: tensor(40.9057)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5423)	phi BC Loss: tensor(2.3675e-09)	mu
BC Loss: tensor(0.2671)	NS PDE Loss: tensor(3.2718)	NS Div Free Loss: tensor(2.9587e-07)	
Iteration: 18000	Total Loss: tensor(49.9984)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5419)	phi BC Loss: tensor(1.2724e-08)	mu
BC Loss: tensor(0.2633)	NS PDE Loss: tensor(4.1836)	NS Div Free Loss: tensor(2.7664e-06)	
Iteration: 18200	Total Loss: tensor(41.2464)		

IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5424)	phi BC Loss: tensor(1.4255e-06)	mu
BC Loss: tensor(0.2594)	NS PDE Loss: tensor(3.3123)	NS Div Free Loss: tensor(8.4983e-06)	
Iteration: 18400	Total Loss: tensor(26.9364)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5431)	phi BC Loss: tensor(7.7316e-06)	mu
BC Loss: tensor(0.2549)	NS PDE Loss: tensor(1.8846)	NS Div Free Loss: tensor(1.1682e-05)	
Iteration: 18600	Total Loss: tensor(89.4126)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.5116)	phi BC Loss: tensor(3.0698e-09)	mu
BC Loss: tensor(0.2756)	NS PDE Loss: tensor(8.0755)	NS Div Free Loss: tensor(1.4046e-06)	
Iteration: 18800	Total Loss: tensor(26.4308)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.4745)	phi BC Loss: tensor(9.5926e-09)	mu
BC Loss: tensor(0.2884)	NS PDE Loss: tensor(1.6502)	NS Div Free Loss: tensor(6.5156e-07)	
Iteration: 19000	Total Loss: tensor(14.8522)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.5321)	phi BC Loss: tensor(8.1670e-12)	mu
BC Loss: tensor(0.2797)	NS PDE Loss: tensor(0.6491)	NS Div Free Loss: tensor(7.9987e-07)	
Iteration: 19200	Total Loss: tensor(220.7292)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(0.5487)	phi BC Loss: tensor(4.5078e-09)	mu
BC Loss: tensor(0.2691)	NS PDE Loss: tensor(21.2519)	NS Div Free Loss: tensor(4.7398e-06)	
Iteration: 19400	Total Loss: tensor(54.9968)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.5399)	phi BC Loss: tensor(5.3429e-09)	mu
BC Loss: tensor(0.2714)	NS PDE Loss: tensor(4.6755)	NS Div Free Loss: tensor(1.8277e-06)	
Iteration: 19600	Total Loss: tensor(47.5318)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.5172)	phi BC Loss: tensor(2.7296e-09)	mu
BC Loss: tensor(0.2767)	NS PDE Loss: tensor(3.8980)	NS Div Free Loss: tensor(5.9473e-06)	
Iteration: 19800	Total Loss: tensor(45.6395)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.5100)	phi BC Loss: tensor(4.2605e-07)	mu
BC Loss: tensor(0.2844)	NS PDE Loss: tensor(3.6903)	NS Div Free Loss: tensor(1.4085e-05)	
Iteration: 20000	Total Loss: tensor(95.5146)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.5073)	phi BC Loss: tensor(5.7746e-06)	mu
BC Loss: tensor(0.2814)	NS PDE Loss: tensor(8.6804)	NS Div Free Loss: tensor(9.4262e-06)	
Current Final Time: 0.7 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(68.0757)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.8231)	phi BC Loss: tensor(1.0319e-10)	mu
BC Loss: tensor(0.6873)	NS PDE Loss: tensor(5.5702)	NS Div Free Loss: tensor(2.2680e-05)	
Iteration: 400	Total Loss: tensor(50.0737)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.8143)	phi BC Loss: tensor(1.3813e-10)	mu
BC Loss: tensor(0.6479)	NS PDE Loss: tensor(3.7733)	NS Div Free Loss: tensor(3.2023e-05)	
Iteration: 600	Total Loss: tensor(171.2152)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(0.8106)	phi BC Loss: tensor(2.1585e-10)	mu
BC Loss: tensor(0.6398)	NS PDE Loss: tensor(15.8992)	NS Div Free Loss: tensor(1.8950e-05)	
Iteration: 800	Total Loss: tensor(111.2122)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.8211)	phi BC Loss: tensor(3.6432e-10)	mu
BC Loss: tensor(0.6373)	NS PDE Loss: tensor(9.9050)	NS Div Free Loss: tensor(2.6199e-06)	

Iteration: 1000	Total Loss: tensor(205.3242)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.8277)	phi BC Loss: tensor(5.8540e-10)	mu
BC Loss: tensor(0.6257)	NS PDE Loss: tensor(19.3297)	NS Div Free Loss: tensor(1.0224e-06)	
Iteration: 1200	Total Loss: tensor(138.3481)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8240)	phi BC Loss: tensor(1.1113e-09)	mu
BC Loss: tensor(0.6023)	NS PDE Loss: tensor(12.6507)	NS Div Free Loss: tensor(3.4787e-06)	
Iteration: 1400	Total Loss: tensor(154.8774)		
IC Loss: tensor(0.0072)	u BC Loss: tensor(0.7472)	phi BC Loss: tensor(1.8889e-09)	mu
BC Loss: tensor(0.6329)	NS PDE Loss: tensor(14.0822)	NS Div Free Loss: tensor(4.6356e-05)	
Iteration: 1600	Total Loss: tensor(184.5092)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8676)	phi BC Loss: tensor(3.7072e-09)	mu
BC Loss: tensor(0.5928)	NS PDE Loss: tensor(17.2991)	NS Div Free Loss: tensor(6.5938e-06)	
Iteration: 1800	Total Loss: tensor(259.4329)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8264)	phi BC Loss: tensor(7.3608e-09)	mu
BC Loss: tensor(0.5812)	NS PDE Loss: tensor(24.7758)	NS Div Free Loss: tensor(2.6606e-05)	
Iteration: 2000	Total Loss: tensor(236.3093)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.7752)	phi BC Loss: tensor(1.4173e-08)	mu
BC Loss: tensor(0.5773)	NS PDE Loss: tensor(22.3451)	NS Div Free Loss: tensor(1.2947e-05)	
Iteration: 2200	Total Loss: tensor(529.5634)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.7477)	phi BC Loss: tensor(1.9476e-08)	mu
BC Loss: tensor(0.6231)	NS PDE Loss: tensor(51.5626)	NS Div Free Loss: tensor(5.0078e-06)	
Iteration: 2400	Total Loss: tensor(485.7614)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(0.7483)	phi BC Loss: tensor(2.7123e-08)	mu
BC Loss: tensor(0.6366)	NS PDE Loss: tensor(47.1771)	NS Div Free Loss: tensor(1.7073e-06)	
Iteration: 2600	Total Loss: tensor(459.6164)		
IC Loss: tensor(0.0069)	u BC Loss: tensor(0.7515)	phi BC Loss: tensor(3.7119e-08)	mu
BC Loss: tensor(0.6396)	NS PDE Loss: tensor(44.5716)	NS Div Free Loss: tensor(1.1721e-06)	
Iteration: 2800	Total Loss: tensor(501.9715)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.7675)	phi BC Loss: tensor(5.1779e-08)	mu
BC Loss: tensor(0.6316)	NS PDE Loss: tensor(48.8641)	NS Div Free Loss: tensor(1.0721e-06)	
Iteration: 3000	Total Loss: tensor(19.1972)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8315)	phi BC Loss: tensor(8.5544e-08)	mu
BC Loss: tensor(0.5841)	NS PDE Loss: tensor(0.7471)	NS Div Free Loss: tensor(3.5260e-06)	
Iteration: 3200	Total Loss: tensor(44.8610)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8467)	phi BC Loss: tensor(1.3103e-07)	mu
BC Loss: tensor(0.5826)	NS PDE Loss: tensor(3.3291)	NS Div Free Loss: tensor(2.6158e-06)	
Iteration: 3400	Total Loss: tensor(31.6541)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8610)	phi BC Loss: tensor(3.1943e-07)	mu
BC Loss: tensor(0.5461)	NS PDE Loss: tensor(2.0358)	NS Div Free Loss: tensor(2.0991e-06)	
Iteration: 3600	Total Loss: tensor(58.3833)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8664)	phi BC Loss: tensor(4.6562e-05)	mu
BC Loss: tensor(0.5287)	NS PDE Loss: tensor(4.7203)	NS Div Free Loss: tensor(5.6956e-07)	

Iteration: 3800	Total Loss: tensor(61.3454)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8686)	phi BC Loss: tensor(3.7669e-05)	mu
BC Loss: tensor(0.5160)	NS PDE Loss: tensor(5.0255)	NS Div Free Loss: tensor(1.0929e-06)	
Iteration: 4000	Total Loss: tensor(59.9991)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8509)	phi BC Loss: tensor(4.6728e-05)	mu
BC Loss: tensor(0.5182)	NS PDE Loss: tensor(4.8787)	NS Div Free Loss: tensor(4.1985e-06)	
Iteration: 4200	Total Loss: tensor(34.1461)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8646)	phi BC Loss: tensor(1.8989e-05)	mu
BC Loss: tensor(0.4999)	NS PDE Loss: tensor(2.3133)	NS Div Free Loss: tensor(3.6078e-06)	
Iteration: 4400	Total Loss: tensor(34.8036)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8629)	phi BC Loss: tensor(1.0093e-05)	mu
BC Loss: tensor(0.4914)	NS PDE Loss: tensor(2.3840)	NS Div Free Loss: tensor(1.2853e-06)	
Iteration: 4600	Total Loss: tensor(31.6971)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8636)	phi BC Loss: tensor(9.6142e-06)	mu
BC Loss: tensor(0.4841)	NS PDE Loss: tensor(2.0779)	NS Div Free Loss: tensor(9.7992e-07)	
Iteration: 4800	Total Loss: tensor(234.5983)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8353)	phi BC Loss: tensor(1.1315e-05)	mu
BC Loss: tensor(0.4895)	NS PDE Loss: tensor(22.3344)	NS Div Free Loss: tensor(9.0132e-06)	
Iteration: 5000	Total Loss: tensor(94.2010)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8350)	phi BC Loss: tensor(2.1028e-09)	mu
BC Loss: tensor(0.5084)	NS PDE Loss: tensor(8.2874)	NS Div Free Loss: tensor(1.7481e-06)	
Iteration: 5200	Total Loss: tensor(78.3481)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.8451)	phi BC Loss: tensor(5.9816e-07)	mu
BC Loss: tensor(0.4870)	NS PDE Loss: tensor(6.7229)	NS Div Free Loss: tensor(3.9310e-06)	
Iteration: 5400	Total Loss: tensor(46.9434)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8654)	phi BC Loss: tensor(3.2423e-11)	mu
BC Loss: tensor(0.4824)	NS PDE Loss: tensor(3.5984)	NS Div Free Loss: tensor(4.4924e-06)	
Iteration: 5600	Total Loss: tensor(48.7827)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8672)	phi BC Loss: tensor(3.4003e-07)	mu
BC Loss: tensor(0.4703)	NS PDE Loss: tensor(3.7896)	NS Div Free Loss: tensor(1.6236e-06)	
Iteration: 5800	Total Loss: tensor(50.5369)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8672)	phi BC Loss: tensor(6.1876e-08)	mu
BC Loss: tensor(0.4619)	NS PDE Loss: tensor(3.9714)	NS Div Free Loss: tensor(1.0849e-06)	
Iteration: 6000	Total Loss: tensor(30.8517)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8637)	phi BC Loss: tensor(7.0073e-08)	mu
BC Loss: tensor(0.4525)	NS PDE Loss: tensor(2.0097)	NS Div Free Loss: tensor(1.2986e-06)	
Iteration: 6200	Total Loss: tensor(42.8866)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.7702)	phi BC Loss: tensor(2.1764e-07)	mu
BC Loss: tensor(0.5033)	NS PDE Loss: tensor(3.0147)	NS Div Free Loss: tensor(1.6282e-06)	
Iteration: 6400	Total Loss: tensor(103.5520)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.7652)	phi BC Loss: tensor(2.6503e-07)	mu
BC Loss: tensor(0.5187)	NS PDE Loss: tensor(9.0615)	NS Div Free Loss: tensor(1.5871e-06)	

Iteration: 6600	Total Loss: tensor(261.1454)		
IC Loss: tensor(0.0093)	u BC Loss: tensor(0.7044)	phi BC Loss: tensor(8.1259e-08)	mu
BC Loss: tensor(0.5414)	NS PDE Loss: tensor(24.5620)	NS Div Free Loss: tensor(4.3785e-05)	
Iteration: 6800	Total Loss: tensor(159.1348)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8608)	phi BC Loss: tensor(8.6077e-09)	mu
BC Loss: tensor(0.5073)	NS PDE Loss: tensor(14.8022)	NS Div Free Loss: tensor(1.7428e-06)	
Iteration: 7000	Total Loss: tensor(149.0014)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8325)	phi BC Loss: tensor(6.3043e-08)	mu
BC Loss: tensor(0.5027)	NS PDE Loss: tensor(13.7651)	NS Div Free Loss: tensor(2.4820e-06)	
Iteration: 7200	Total Loss: tensor(200.1434)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8239)	phi BC Loss: tensor(1.3165e-07)	mu
BC Loss: tensor(0.4925)	NS PDE Loss: tensor(18.8862)	NS Div Free Loss: tensor(1.8312e-06)	
Iteration: 7400	Total Loss: tensor(71.3853)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8337)	phi BC Loss: tensor(2.9294e-07)	mu
BC Loss: tensor(0.4953)	NS PDE Loss: tensor(6.0123)	NS Div Free Loss: tensor(7.1901e-06)	
Iteration: 7600	Total Loss: tensor(50.8478)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8343)	phi BC Loss: tensor(3.1099e-07)	mu
BC Loss: tensor(0.4912)	NS PDE Loss: tensor(3.9614)	NS Div Free Loss: tensor(7.3834e-06)	
Iteration: 7800	Total Loss: tensor(344.8365)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8425)	phi BC Loss: tensor(1.0824e-07)	mu
BC Loss: tensor(0.4784)	NS PDE Loss: tensor(33.3848)	NS Div Free Loss: tensor(6.3282e-06)	
Iteration: 8000	Total Loss: tensor(74.3528)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(0.8317)	phi BC Loss: tensor(3.9803e-07)	mu
BC Loss: tensor(0.4792)	NS PDE Loss: tensor(6.3201)	NS Div Free Loss: tensor(1.0937e-05)	
Iteration: 8200	Total Loss: tensor(137.3398)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(0.7908)	phi BC Loss: tensor(6.8216e-07)	mu
BC Loss: tensor(0.5254)	NS PDE Loss: tensor(12.5026)	NS Div Free Loss: tensor(1.2124e-06)	
Iteration: 8400	Total Loss: tensor(101.7139)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.7748)	phi BC Loss: tensor(9.4199e-07)	mu
BC Loss: tensor(0.5408)	NS PDE Loss: tensor(8.8856)	NS Div Free Loss: tensor(3.2714e-06)	
Iteration: 8600	Total Loss: tensor(83.9623)		
IC Loss: tensor(0.0064)	u BC Loss: tensor(0.7714)	phi BC Loss: tensor(1.0206e-06)	mu
BC Loss: tensor(0.5486)	NS PDE Loss: tensor(7.0967)	NS Div Free Loss: tensor(5.4746e-06)	
Iteration: 8800	Total Loss: tensor(63.6963)		
IC Loss: tensor(0.0065)	u BC Loss: tensor(0.7696)	phi BC Loss: tensor(5.8050e-07)	mu
BC Loss: tensor(0.5521)	NS PDE Loss: tensor(5.0625)	NS Div Free Loss: tensor(6.1857e-06)	
Iteration: 9000	Total Loss: tensor(299.0994)		
IC Loss: tensor(0.0063)	u BC Loss: tensor(0.7767)	phi BC Loss: tensor(1.6321e-05)	mu
BC Loss: tensor(0.5578)	NS PDE Loss: tensor(28.6136)	NS Div Free Loss: tensor(1.0040e-05)	
Iteration: 9200	Total Loss: tensor(114.3626)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.8412)	phi BC Loss: tensor(2.9909e-10)	mu
BC Loss: tensor(0.5192)	NS PDE Loss: tensor(10.3104)	NS Div Free Loss: tensor(3.9568e-06)	

Iteration: 9400	Total Loss: tensor(44.1813)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8486)	phi BC Loss: tensor(5.0433e-10)	mu
BC Loss: tensor(0.4937)	NS PDE Loss: tensor(3.3104)	NS Div Free Loss: tensor(1.3210e-05)	
Iteration: 9600	Total Loss: tensor(38.7620)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8611)	phi BC Loss: tensor(1.3136e-07)	mu
BC Loss: tensor(0.4635)	NS PDE Loss: tensor(2.7920)	NS Div Free Loss: tensor(1.9942e-05)	
Iteration: 9800	Total Loss: tensor(41.5933)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8623)	phi BC Loss: tensor(7.4736e-07)	mu
BC Loss: tensor(0.4498)	NS PDE Loss: tensor(3.0810)	NS Div Free Loss: tensor(2.6191e-05)	
Iteration: 10000	Total Loss: tensor(29.5682)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8681)	phi BC Loss: tensor(2.9641e-06)	mu
BC Loss: tensor(0.4455)	NS PDE Loss: tensor(1.8799)	NS Div Free Loss: tensor(2.2477e-05)	
Iteration: 10200	Total Loss: tensor(144.7492)		
IC Loss: tensor(0.0054)	u BC Loss: tensor(0.7960)	phi BC Loss: tensor(4.6592e-07)	mu
BC Loss: tensor(0.4792)	NS PDE Loss: tensor(13.2929)	NS Div Free Loss: tensor(4.8727e-05)	
Iteration: 10400	Total Loss: tensor(28.5059)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8302)	phi BC Loss: tensor(7.4558e-06)	mu
BC Loss: tensor(0.4736)	NS PDE Loss: tensor(1.7313)	NS Div Free Loss: tensor(3.4992e-05)	
Iteration: 10600	Total Loss: tensor(40.4901)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8520)	phi BC Loss: tensor(6.0450e-08)	mu
BC Loss: tensor(0.4639)	NS PDE Loss: tensor(2.9558)	NS Div Free Loss: tensor(2.2154e-05)	
Iteration: 10800	Total Loss: tensor(36.2798)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8595)	phi BC Loss: tensor(1.2068e-08)	mu
BC Loss: tensor(0.4506)	NS PDE Loss: tensor(2.5491)	NS Div Free Loss: tensor(1.5075e-05)	
Iteration: 11000	Total Loss: tensor(38.2282)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8685)	phi BC Loss: tensor(7.5722e-10)	mu
BC Loss: tensor(0.4416)	NS PDE Loss: tensor(2.7489)	NS Div Free Loss: tensor(1.8011e-05)	
Iteration: 11200	Total Loss: tensor(95.2887)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8496)	phi BC Loss: tensor(3.7724e-12)	mu
BC Loss: tensor(0.4309)	NS PDE Loss: tensor(8.4502)	NS Div Free Loss: tensor(1.4266e-05)	
Iteration: 11400	Total Loss: tensor(78.2325)		
IC Loss: tensor(0.0053)	u BC Loss: tensor(0.7993)	phi BC Loss: tensor(3.9992e-12)	mu
BC Loss: tensor(0.4655)	NS PDE Loss: tensor(6.6585)	NS Div Free Loss: tensor(2.1693e-05)	
Iteration: 11600	Total Loss: tensor(96.0054)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.8060)	phi BC Loss: tensor(2.9830e-11)	mu
BC Loss: tensor(0.4716)	NS PDE Loss: tensor(8.4456)	NS Div Free Loss: tensor(2.5907e-05)	
Iteration: 11800	Total Loss: tensor(314.3732)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(0.8018)	phi BC Loss: tensor(1.1879e-06)	mu
BC Loss: tensor(0.4683)	NS PDE Loss: tensor(30.2811)	NS Div Free Loss: tensor(2.2956e-05)	
Iteration: 12000	Total Loss: tensor(49.7073)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(0.8098)	phi BC Loss: tensor(5.8690e-05)	mu
BC Loss: tensor(0.4846)	NS PDE Loss: tensor(3.8136)	NS Div Free Loss: tensor(2.7914e-06)	

Iteration: 12200	Total Loss: tensor(76.3951)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(0.8487)	phi BC Loss: tensor(1.6009e-12)	mu
BC Loss: tensor(0.4452)	NS PDE Loss: tensor(6.5537)	NS Div Free Loss: tensor(1.2921e-05)	
Iteration: 12400	Total Loss: tensor(35.5587)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8601)	phi BC Loss: tensor(1.6249e-12)	mu
BC Loss: tensor(0.4463)	NS PDE Loss: tensor(2.4763)	NS Div Free Loss: tensor(5.8166e-06)	
Iteration: 12600	Total Loss: tensor(32.8050)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8638)	phi BC Loss: tensor(1.6391e-12)	mu
BC Loss: tensor(0.4397)	NS PDE Loss: tensor(2.2052)	NS Div Free Loss: tensor(1.3030e-05)	
Iteration: 12800	Total Loss: tensor(34.4193)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8629)	phi BC Loss: tensor(1.6609e-12)	mu
BC Loss: tensor(0.4337)	NS PDE Loss: tensor(2.3684)	NS Div Free Loss: tensor(2.6175e-05)	
Iteration: 13000	Total Loss: tensor(41.9521)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8627)	phi BC Loss: tensor(1.6870e-12)	mu
BC Loss: tensor(0.4292)	NS PDE Loss: tensor(3.1237)	NS Div Free Loss: tensor(3.6852e-05)	
Iteration: 13200	Total Loss: tensor(38.2180)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8626)	phi BC Loss: tensor(1.7142e-12)	mu
BC Loss: tensor(0.4257)	NS PDE Loss: tensor(2.7515)	NS Div Free Loss: tensor(4.6062e-05)	
Iteration: 13400	Total Loss: tensor(39.8341)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8624)	phi BC Loss: tensor(1.7385e-12)	mu
BC Loss: tensor(0.4227)	NS PDE Loss: tensor(2.9146)	NS Div Free Loss: tensor(5.4873e-05)	
Iteration: 13600	Total Loss: tensor(41.2975)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8621)	phi BC Loss: tensor(1.7578e-12)	mu
BC Loss: tensor(0.4200)	NS PDE Loss: tensor(3.0620)	NS Div Free Loss: tensor(6.2786e-05)	
Iteration: 13800	Total Loss: tensor(42.6308)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8619)	phi BC Loss: tensor(1.7702e-12)	mu
BC Loss: tensor(0.4175)	NS PDE Loss: tensor(3.1963)	NS Div Free Loss: tensor(6.9833e-05)	
Iteration: 14000	Total Loss: tensor(50.6412)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8615)	phi BC Loss: tensor(2.3872e-12)	mu
BC Loss: tensor(0.4151)	NS PDE Loss: tensor(3.9984)	NS Div Free Loss: tensor(7.7028e-05)	
Iteration: 14200	Total Loss: tensor(44.7950)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8616)	phi BC Loss: tensor(2.3827e-12)	mu
BC Loss: tensor(0.4131)	NS PDE Loss: tensor(3.4146)	NS Div Free Loss: tensor(8.1600e-05)	
Iteration: 14400	Total Loss: tensor(45.5516)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8615)	phi BC Loss: tensor(2.3714e-12)	mu
BC Loss: tensor(0.4110)	NS PDE Loss: tensor(3.4911)	NS Div Free Loss: tensor(8.6478e-05)	
Iteration: 14600	Total Loss: tensor(46.2167)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8615)	phi BC Loss: tensor(2.3573e-12)	mu
BC Loss: tensor(0.4091)	NS PDE Loss: tensor(3.5585)	NS Div Free Loss: tensor(9.0757e-05)	
Iteration: 14800	Total Loss: tensor(46.6841)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8615)	phi BC Loss: tensor(2.3447e-12)	mu
BC Loss: tensor(0.4072)	NS PDE Loss: tensor(3.6058)	NS Div Free Loss: tensor(9.4144e-05)	

Iteration: 15000	Total Loss: tensor(53.3879)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8612)	phi BC Loss: tensor(2.3392e-12)	mu
BC Loss: tensor(0.4055)	NS PDE Loss: tensor(4.2770)	NS Div Free Loss: tensor(9.6083e-05)	
Iteration: 15200	Total Loss: tensor(45.7331)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8605)	phi BC Loss: tensor(2.3447e-12)	mu
BC Loss: tensor(0.4040)	NS PDE Loss: tensor(3.5115)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15400	Total Loss: tensor(46.0343)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8609)	phi BC Loss: tensor(2.3627e-12)	mu
BC Loss: tensor(0.4021)	NS PDE Loss: tensor(3.5427)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15600	Total Loss: tensor(46.4901)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8614)	phi BC Loss: tensor(2.3948e-12)	mu
BC Loss: tensor(0.4006)	NS PDE Loss: tensor(3.5894)	NS Div Free Loss: tensor(0.0001)	
Iteration: 15800	Total Loss: tensor(46.9965)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8617)	phi BC Loss: tensor(2.4419e-12)	mu
BC Loss: tensor(0.3990)	NS PDE Loss: tensor(3.6410)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16000	Total Loss: tensor(52.0147)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8608)	phi BC Loss: tensor(2.5014e-12)	mu
BC Loss: tensor(0.3979)	NS PDE Loss: tensor(4.1430)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16200	Total Loss: tensor(44.3380)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8598)	phi BC Loss: tensor(2.9952e-12)	mu
BC Loss: tensor(0.3967)	NS PDE Loss: tensor(3.3748)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16400	Total Loss: tensor(45.2374)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8622)	phi BC Loss: tensor(3.0979e-12)	mu
BC Loss: tensor(0.3953)	NS PDE Loss: tensor(3.4674)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16600	Total Loss: tensor(46.9086)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8620)	phi BC Loss: tensor(3.2078e-12)	mu
BC Loss: tensor(0.3947)	NS PDE Loss: tensor(3.6351)	NS Div Free Loss: tensor(0.0001)	
Iteration: 16800	Total Loss: tensor(44.4916)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8599)	phi BC Loss: tensor(3.3288e-12)	mu
BC Loss: tensor(0.3994)	NS PDE Loss: tensor(3.3914)	NS Div Free Loss: tensor(6.8943e-05)	
Iteration: 17000	Total Loss: tensor(50.2715)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8621)	phi BC Loss: tensor(3.4599e-12)	mu
BC Loss: tensor(0.3971)	NS PDE Loss: tensor(3.9732)	NS Div Free Loss: tensor(4.5676e-05)	
Iteration: 17200	Total Loss: tensor(43.0406)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8640)	phi BC Loss: tensor(3.4705e-12)	mu
BC Loss: tensor(0.3923)	NS PDE Loss: tensor(3.2538)	NS Div Free Loss: tensor(3.6012e-05)	
Iteration: 17400	Total Loss: tensor(110.6245)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(0.8452)	phi BC Loss: tensor(4.6651e-12)	mu
BC Loss: tensor(0.4049)	NS PDE Loss: tensor(9.9888)	NS Div Free Loss: tensor(2.7671e-05)	
Iteration: 17600	Total Loss: tensor(41.5217)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8690)	phi BC Loss: tensor(4.7797e-12)	mu
BC Loss: tensor(0.4054)	NS PDE Loss: tensor(3.0969)	NS Div Free Loss: tensor(2.6460e-05)	

Iteration: 17800	Total Loss: tensor(19.6908)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(0.8613)	phi BC Loss: tensor(4.9399e-12)	mu
BC Loss: tensor(0.4086)	NS PDE Loss: tensor(0.9091)	NS Div Free Loss: tensor(2.2636e-05)	
Iteration: 18000	Total Loss: tensor(202.0747)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(0.8256)	phi BC Loss: tensor(5.1400e-12)	mu
BC Loss: tensor(0.4133)	NS PDE Loss: tensor(19.1128)	NS Div Free Loss: tensor(2.4952e-05)	
Iteration: 18200	Total Loss: tensor(20.0415)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8320)	phi BC Loss: tensor(6.7766e-12)	mu
BC Loss: tensor(0.4184)	NS PDE Loss: tensor(0.9138)	NS Div Free Loss: tensor(1.8656e-05)	
Iteration: 18400	Total Loss: tensor(42.6397)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8257)	phi BC Loss: tensor(7.1353e-12)	mu
BC Loss: tensor(0.4142)	NS PDE Loss: tensor(3.1693)	NS Div Free Loss: tensor(6.3381e-06)	
Iteration: 18600	Total Loss: tensor(215.0774)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8325)	phi BC Loss: tensor(7.4963e-12)	mu
BC Loss: tensor(0.4290)	NS PDE Loss: tensor(20.4049)	NS Div Free Loss: tensor(2.0918e-06)	
Iteration: 18800	Total Loss: tensor(73.2381)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8251)	phi BC Loss: tensor(8.0083e-12)	mu
BC Loss: tensor(0.4272)	NS PDE Loss: tensor(6.2235)	NS Div Free Loss: tensor(2.1280e-06)	
Iteration: 19000	Total Loss: tensor(149.1443)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(0.8253)	phi BC Loss: tensor(8.7084e-12)	mu
BC Loss: tensor(0.4259)	NS PDE Loss: tensor(13.8167)	NS Div Free Loss: tensor(2.1720e-06)	
Iteration: 19200	Total Loss: tensor(27.1655)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.7713)	phi BC Loss: tensor(7.6081e-12)	mu
BC Loss: tensor(0.4449)	NS PDE Loss: tensor(1.4934)	NS Div Free Loss: tensor(2.4198e-05)	
Iteration: 19400	Total Loss: tensor(86.8774)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(0.8219)	phi BC Loss: tensor(8.2981e-12)	mu
BC Loss: tensor(0.4518)	NS PDE Loss: tensor(7.5658)	NS Div Free Loss: tensor(1.5044e-05)	
Iteration: 19600	Total Loss: tensor(13.2827)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(0.8552)	phi BC Loss: tensor(9.2799e-12)	mu
BC Loss: tensor(0.4280)	NS PDE Loss: tensor(0.2578)	NS Div Free Loss: tensor(1.3993e-05)	
Iteration: 19800	Total Loss: tensor(471.8695)		
IC Loss: tensor(0.0061)	u BC Loss: tensor(0.7726)	phi BC Loss: tensor(2.0110e-11)	mu
BC Loss: tensor(0.4388)	NS PDE Loss: tensor(45.9720)	NS Div Free Loss: tensor(1.8871e-05)	
Iteration: 20000	Total Loss: tensor(540.5955)		
IC Loss: tensor(0.0066)	u BC Loss: tensor(0.7587)	phi BC Loss: tensor(2.8463e-11)	mu
BC Loss: tensor(0.4709)	NS PDE Loss: tensor(52.7849)	NS Div Free Loss: tensor(6.3130e-06)	
Current Final Time: 0.8 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(312.2007)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(1.1785)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8865)	NS PDE Loss: tensor(29.4510)	NS Div Free Loss: tensor(2.6250e-05)	
Iteration: 400	Total Loss: tensor(298.8015)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(1.1906)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.8428)	NS PDE Loss: tensor(28.1579)	NS Div Free Loss: tensor(2.6831e-05)	
Iteration: 600 Total Loss: tensor(80.3359)			
IC Loss: tensor(0.0045)	u BC Loss: tensor(1.3068)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7823)	NS PDE Loss: tensor(6.5398)	NS Div Free Loss: tensor(7.6564e-06)	
Iteration: 800 Total Loss: tensor(118.5060)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3198)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7285)	NS PDE Loss: tensor(10.3883)	NS Div Free Loss: tensor(1.2581e-05)	
Iteration: 1000 Total Loss: tensor(40.2764)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3287)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6863)	NS PDE Loss: tensor(2.5931)	NS Div Free Loss: tensor(3.2157e-05)	
Iteration: 1200 Total Loss: tensor(45.3160)			
IC Loss: tensor(0.0080)	u BC Loss: tensor(1.1673)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7563)	NS PDE Loss: tensor(2.7716)	NS Div Free Loss: tensor(6.8010e-05)	
Iteration: 1400 Total Loss: tensor(107.9352)			
IC Loss: tensor(0.0083)	u BC Loss: tensor(1.1589)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7750)	NS PDE Loss: tensor(8.9988)	NS Div Free Loss: tensor(6.3441e-05)	
Iteration: 1600 Total Loss: tensor(113.9613)			
IC Loss: tensor(0.0069)	u BC Loss: tensor(1.1969)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7569)	NS PDE Loss: tensor(9.7266)	NS Div Free Loss: tensor(4.3909e-05)	
Iteration: 1800 Total Loss: tensor(47.3295)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3278)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7114)	NS PDE Loss: tensor(3.2782)	NS Div Free Loss: tensor(2.5353e-05)	
Iteration: 2000 Total Loss: tensor(359.0286)			
IC Loss: tensor(0.0061)	u BC Loss: tensor(1.2216)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7345)	NS PDE Loss: tensor(34.3138)	NS Div Free Loss: tensor(3.4685e-05)	
Iteration: 2200 Total Loss: tensor(240.2825)			
IC Loss: tensor(0.0055)	u BC Loss: tensor(1.2620)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7529)	NS PDE Loss: tensor(22.4737)	NS Div Free Loss: tensor(4.7054e-06)	
Iteration: 2400 Total Loss: tensor(54.0260)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3317)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6852)	NS PDE Loss: tensor(3.9654)	NS Div Free Loss: tensor(1.4415e-05)	
Iteration: 2600 Total Loss: tensor(142.7168)			
IC Loss: tensor(0.0046)	u BC Loss: tensor(1.3118)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6647)	NS PDE Loss: tensor(12.8283)	NS Div Free Loss: tensor(2.0925e-05)	
Iteration: 2800 Total Loss: tensor(338.4593)			
IC Loss: tensor(0.0048)	u BC Loss: tensor(1.2899)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6605)	NS PDE Loss: tensor(32.3908)	NS Div Free Loss: tensor(3.9955e-05)	
Iteration: 3000 Total Loss: tensor(82.5725)			
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3186)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6452)	NS PDE Loss: tensor(6.8383)	NS Div Free Loss: tensor(2.6049e-05)	
Iteration: 3200 Total Loss: tensor(83.2564)			
IC Loss: tensor(0.0051)	u BC Loss: tensor(1.2676)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.6581)	NS PDE Loss: tensor(6.8480)	NS Div Free Loss: tensor(3.1154e-05)	
Iteration: 3400	Total Loss: tensor(43.3065)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(1.2781)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6551)	NS PDE Loss: tensor(2.8666)	NS Div Free Loss: tensor(3.0913e-05)	
Iteration: 3600	Total Loss: tensor(213.1515)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(1.3056)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6552)	NS PDE Loss: tensor(19.8733)	NS Div Free Loss: tensor(1.7718e-05)	
Iteration: 3800	Total Loss: tensor(24.2181)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3207)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6341)	NS PDE Loss: tensor(1.0047)	NS Div Free Loss: tensor(3.4293e-05)	
Iteration: 4000	Total Loss: tensor(316.5389)		
IC Loss: tensor(0.0057)	u BC Loss: tensor(1.2533)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6930)	NS PDE Loss: tensor(30.1061)	NS Div Free Loss: tensor(4.4369e-06)	
Iteration: 4200	Total Loss: tensor(238.9536)		
IC Loss: tensor(0.0054)	u BC Loss: tensor(1.2543)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6900)	NS PDE Loss: tensor(22.3854)	NS Div Free Loss: tensor(9.7023e-06)	
Iteration: 4400	Total Loss: tensor(99.3636)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(1.2640)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6534)	NS PDE Loss: tensor(8.4617)	NS Div Free Loss: tensor(3.5203e-05)	
Iteration: 4600	Total Loss: tensor(19.8494)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(1.2751)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6517)	NS PDE Loss: tensor(0.5216)	NS Div Free Loss: tensor(2.0498e-05)	
Iteration: 4800	Total Loss: tensor(17.4345)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(1.3140)	phi BC Loss: tensor(6.6863e-12)	mu
BC Loss: tensor(0.6252)	NS PDE Loss: tensor(0.3277)	NS Div Free Loss: tensor(1.4303e-05)	
Iteration: 5000	Total Loss: tensor(375.7332)		
IC Loss: tensor(0.0077)	u BC Loss: tensor(1.1743)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6618)	NS PDE Loss: tensor(35.8829)	NS Div Free Loss: tensor(4.8974e-05)	
Iteration: 5200	Total Loss: tensor(56.7891)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3170)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6471)	NS PDE Loss: tensor(4.2526)	NS Div Free Loss: tensor(1.0507e-05)	
Iteration: 5400	Total Loss: tensor(138.7244)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3292)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6266)	NS PDE Loss: tensor(12.4669)	NS Div Free Loss: tensor(1.1104e-05)	
Iteration: 5600	Total Loss: tensor(94.0590)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(1.2488)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6570)	NS PDE Loss: tensor(7.8984)	NS Div Free Loss: tensor(9.9852e-06)	
Iteration: 5800	Total Loss: tensor(27.4568)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(1.2863)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6511)	NS PDE Loss: tensor(1.2934)	NS Div Free Loss: tensor(1.1689e-05)	
Iteration: 6000	Total Loss: tensor(73.7590)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(1.2630)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.6410)	NS PDE Loss: tensor(5.8999)	NS Div Free Loss: tensor(1.9355e-05)	
Iteration: 6200	Total Loss: tensor(194.9438)		
IC Loss: tensor(0.0076)	u BC Loss: tensor(1.1807)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7186)	NS PDE Loss: tensor(17.7833)	NS Div Free Loss: tensor(1.0834e-05)	
Iteration: 6400	Total Loss: tensor(121.9298)		
IC Loss: tensor(0.0071)	u BC Loss: tensor(1.1943)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7201)	NS PDE Loss: tensor(10.5220)	NS Div Free Loss: tensor(1.1009e-05)	
Iteration: 6600	Total Loss: tensor(67.8741)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3176)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6629)	NS PDE Loss: tensor(5.3614)	NS Div Free Loss: tensor(1.0141e-05)	
Iteration: 6800	Total Loss: tensor(168.7500)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(1.2483)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6444)	NS PDE Loss: tensor(15.3816)	NS Div Free Loss: tensor(1.5802e-05)	
Iteration: 7000	Total Loss: tensor(250.3931)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(1.2479)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6720)	NS PDE Loss: tensor(23.5341)	NS Div Free Loss: tensor(6.8643e-06)	
Iteration: 7200	Total Loss: tensor(69.4993)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(1.2683)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6695)	NS PDE Loss: tensor(5.4703)	NS Div Free Loss: tensor(7.6261e-06)	
Iteration: 7400	Total Loss: tensor(38.3476)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3358)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6314)	NS PDE Loss: tensor(2.4277)	NS Div Free Loss: tensor(2.6778e-06)	
Iteration: 7600	Total Loss: tensor(27.2396)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3129)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6335)	NS PDE Loss: tensor(1.3110)	NS Div Free Loss: tensor(5.7281e-06)	
Iteration: 7800	Total Loss: tensor(60.2788)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3269)	phi BC Loss: tensor(5.1356e-12)	mu
BC Loss: tensor(0.6162)	NS PDE Loss: tensor(4.6235)	NS Div Free Loss: tensor(4.4955e-06)	
Iteration: 8000	Total Loss: tensor(32.5742)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3417)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6068)	NS PDE Loss: tensor(1.8663)	NS Div Free Loss: tensor(3.9925e-06)	
Iteration: 8200	Total Loss: tensor(153.3268)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(1.1819)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6540)	NS PDE Loss: tensor(13.6718)	NS Div Free Loss: tensor(2.1870e-05)	
Iteration: 8400	Total Loss: tensor(170.1151)		
IC Loss: tensor(0.0087)	u BC Loss: tensor(1.1477)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6962)	NS PDE Loss: tensor(15.2158)	NS Div Free Loss: tensor(1.4676e-05)	
Iteration: 8600	Total Loss: tensor(37.1375)		
IC Loss: tensor(0.0051)	u BC Loss: tensor(1.2681)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6837)	NS PDE Loss: tensor(2.2233)	NS Div Free Loss: tensor(3.8179e-06)	
Iteration: 8800	Total Loss: tensor(58.7626)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3144)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.6300)	NS PDE Loss: tensor(4.4678)	NS Div Free Loss: tensor(4.7254e-06)	
Iteration: 9000	Total Loss: tensor(56.3948)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3256)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6137)	NS PDE Loss: tensor(4.2450)	NS Div Free Loss: tensor(4.5334e-06)	
Iteration: 9200	Total Loss: tensor(43.9714)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3338)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5997)	NS PDE Loss: tensor(3.0113)	NS Div Free Loss: tensor(7.9722e-06)	
Iteration: 9400	Total Loss: tensor(44.9010)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3367)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5881)	NS PDE Loss: tensor(3.1096)	NS Div Free Loss: tensor(1.6908e-05)	
Iteration: 9600	Total Loss: tensor(39.8581)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3323)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5821)	NS PDE Loss: tensor(2.6055)	NS Div Free Loss: tensor(2.5949e-05)	
Iteration: 9800	Total Loss: tensor(40.8716)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3370)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5751)	NS PDE Loss: tensor(2.7118)	NS Div Free Loss: tensor(3.2240e-05)	
Iteration: 10000	Total Loss: tensor(49.2839)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3363)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5695)	NS PDE Loss: tensor(3.5554)	NS Div Free Loss: tensor(3.9545e-05)	
Iteration: 10200	Total Loss: tensor(45.5795)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3365)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5652)	NS PDE Loss: tensor(3.1866)	NS Div Free Loss: tensor(4.5495e-05)	
Iteration: 10400	Total Loss: tensor(47.4860)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3365)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5612)	NS PDE Loss: tensor(3.3790)	NS Div Free Loss: tensor(5.0839e-05)	
Iteration: 10600	Total Loss: tensor(49.7418)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3352)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5579)	NS PDE Loss: tensor(3.6054)	NS Div Free Loss: tensor(5.6930e-05)	
Iteration: 10800	Total Loss: tensor(46.6347)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3365)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5556)	NS PDE Loss: tensor(3.2964)	NS Div Free Loss: tensor(5.6713e-05)	
Iteration: 11000	Total Loss: tensor(51.9779)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3354)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5531)	NS PDE Loss: tensor(3.8315)	NS Div Free Loss: tensor(5.8395e-05)	
Iteration: 11200	Total Loss: tensor(44.9086)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3368)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5504)	NS PDE Loss: tensor(3.1261)	NS Div Free Loss: tensor(6.2788e-05)	
Iteration: 11400	Total Loss: tensor(44.8294)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3358)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5479)	NS PDE Loss: tensor(3.1189)	NS Div Free Loss: tensor(6.5301e-05)	
Iteration: 11600	Total Loss: tensor(45.0199)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3359)	phi BC Loss: tensor(0.)	mu BC Loss:

tensor(0.5454)	NS PDE Loss: tensor(3.1390)	NS Div Free Loss: tensor(6.9424e-05)	
Iteration: 11800	Total Loss: tensor(45.1116)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3359)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5432)	NS PDE Loss: tensor(3.1491)	NS Div Free Loss: tensor(7.0780e-05)	
Iteration: 12000	Total Loss: tensor(51.9908)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3353)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5412)	NS PDE Loss: tensor(3.8379)	NS Div Free Loss: tensor(7.4089e-05)	
Iteration: 12200	Total Loss: tensor(45.3203)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3355)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5397)	NS PDE Loss: tensor(3.1714)	NS Div Free Loss: tensor(7.4240e-05)	
Iteration: 12400	Total Loss: tensor(45.3763)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3354)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5381)	NS PDE Loss: tensor(3.1776)	NS Div Free Loss: tensor(7.5298e-05)	
Iteration: 12600	Total Loss: tensor(45.3475)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3353)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5366)	NS PDE Loss: tensor(3.1754)	NS Div Free Loss: tensor(7.5940e-05)	
Iteration: 12800	Total Loss: tensor(45.2823)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3352)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5352)	NS PDE Loss: tensor(3.1694)	NS Div Free Loss: tensor(7.6442e-05)	
Iteration: 13000	Total Loss: tensor(52.0593)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3347)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5336)	NS PDE Loss: tensor(3.8479)	NS Div Free Loss: tensor(7.7669e-05)	
Iteration: 13200	Total Loss: tensor(45.0984)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3350)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5325)	NS PDE Loss: tensor(3.1522)	NS Div Free Loss: tensor(7.6706e-05)	
Iteration: 13400	Total Loss: tensor(45.0241)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3350)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5311)	NS PDE Loss: tensor(3.1453)	NS Div Free Loss: tensor(7.6553e-05)	
Iteration: 13600	Total Loss: tensor(46.1333)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3348)	phi BC Loss: tensor(2.3531e-12)	mu
BC Loss: tensor(0.5297)	NS PDE Loss: tensor(3.2569)	NS Div Free Loss: tensor(7.6476e-05)	
Iteration: 13800	Total Loss: tensor(45.9783)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3348)	phi BC Loss: tensor(5.1908e-10)	mu
BC Loss: tensor(0.5284)	NS PDE Loss: tensor(3.2436)	NS Div Free Loss: tensor(7.6104e-05)	
Iteration: 14000	Total Loss: tensor(56.7111)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3342)	phi BC Loss: tensor(3.1883e-10)	mu
BC Loss: tensor(0.5258)	NS PDE Loss: tensor(4.3183)	NS Div Free Loss: tensor(7.4641e-05)	
Iteration: 14200	Total Loss: tensor(45.9500)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3352)	phi BC Loss: tensor(2.3501e-10)	mu
BC Loss: tensor(0.5250)	NS PDE Loss: tensor(3.2426)	NS Div Free Loss: tensor(7.4807e-05)	
Iteration: 14400	Total Loss: tensor(46.2836)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3356)	phi BC Loss: tensor(4.5904e-10)	mu

BC Loss: tensor(0.5235)	NS PDE Loss: tensor(3.2769)	NS Div Free Loss: tensor(7.4037e-05)	
Iteration: 14600	Total Loss: tensor(47.8794)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3353)	phi BC Loss: tensor(3.3073e-09)	mu
BC Loss: tensor(0.5217)	NS PDE Loss: tensor(3.4373)	NS Div Free Loss: tensor(7.0842e-05)	
Iteration: 14800	Total Loss: tensor(44.3649)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3352)	phi BC Loss: tensor(7.3011e-09)	mu
BC Loss: tensor(0.5217)	NS PDE Loss: tensor(3.0861)	NS Div Free Loss: tensor(6.8241e-05)	
Iteration: 15000	Total Loss: tensor(59.4632)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3337)	phi BC Loss: tensor(9.1229e-09)	mu
BC Loss: tensor(0.5197)	NS PDE Loss: tensor(4.5965)	NS Div Free Loss: tensor(7.4550e-05)	
Iteration: 15200	Total Loss: tensor(44.4682)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3347)	phi BC Loss: tensor(1.3011e-08)	mu
BC Loss: tensor(0.5182)	NS PDE Loss: tensor(3.0978)	NS Div Free Loss: tensor(7.1589e-05)	
Iteration: 15400	Total Loss: tensor(43.1975)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3363)	phi BC Loss: tensor(6.0834e-07)	mu
BC Loss: tensor(0.5173)	NS PDE Loss: tensor(2.9720)	NS Div Free Loss: tensor(6.6725e-05)	
Iteration: 15600	Total Loss: tensor(43.1551)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3334)	phi BC Loss: tensor(1.1836e-05)	mu
BC Loss: tensor(0.5159)	NS PDE Loss: tensor(2.9683)	NS Div Free Loss: tensor(6.5046e-05)	
Iteration: 15800	Total Loss: tensor(46.2574)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3360)	phi BC Loss: tensor(1.2513e-05)	mu
BC Loss: tensor(0.5144)	NS PDE Loss: tensor(3.2805)	NS Div Free Loss: tensor(7.0101e-05)	
Iteration: 16000	Total Loss: tensor(52.5312)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3329)	phi BC Loss: tensor(2.9013e-05)	mu
BC Loss: tensor(0.5129)	NS PDE Loss: tensor(3.9085)	NS Div Free Loss: tensor(7.5200e-05)	
Iteration: 16200	Total Loss: tensor(98.6413)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3348)	phi BC Loss: tensor(7.4169e-06)	mu
BC Loss: tensor(0.5216)	NS PDE Loss: tensor(8.5130)	NS Div Free Loss: tensor(1.7241e-05)	
Iteration: 16400	Total Loss: tensor(96.9975)		
IC Loss: tensor(0.0055)	u BC Loss: tensor(1.2483)	phi BC Loss: tensor(8.6694e-06)	mu
BC Loss: tensor(0.5496)	NS PDE Loss: tensor(8.2459)	NS Div Free Loss: tensor(3.9068e-05)	
Iteration: 16600	Total Loss: tensor(76.4036)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.3101)	phi BC Loss: tensor(4.3449e-05)	mu
BC Loss: tensor(0.5386)	NS PDE Loss: tensor(6.2756)	NS Div Free Loss: tensor(1.7674e-05)	
Iteration: 16800	Total Loss: tensor(60.3264)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3244)	phi BC Loss: tensor(4.1926e-05)	mu
BC Loss: tensor(0.5314)	NS PDE Loss: tensor(4.6812)	NS Div Free Loss: tensor(5.4255e-06)	
Iteration: 17000	Total Loss: tensor(53.0329)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3336)	phi BC Loss: tensor(4.9328e-05)	mu
BC Loss: tensor(0.5219)	NS PDE Loss: tensor(3.9605)	NS Div Free Loss: tensor(9.5198e-06)	
Iteration: 17200	Total Loss: tensor(48.4896)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3366)	phi BC Loss: tensor(6.8324e-05)	mu

BC Loss: tensor(0.5145)	NS PDE Loss: tensor(3.5099)	NS Div Free Loss: tensor(1.6934e-05)	
Iteration: 17400	Total Loss: tensor(53.7800)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3393)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.5111)	NS PDE Loss: tensor(4.0418)	NS Div Free Loss: tensor(1.0948e-05)	
Iteration: 17600	Total Loss: tensor(54.5430)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3386)	phi BC Loss: tensor(8.2934e-05)	mu
BC Loss: tensor(0.5075)	NS PDE Loss: tensor(4.1205)	NS Div Free Loss: tensor(5.1943e-06)	
Iteration: 17800	Total Loss: tensor(281.9880)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3485)	phi BC Loss: tensor(0.0001)	mu BC Loss:
tensor(0.5087)	NS PDE Loss: tensor(26.8590)	NS Div Free Loss: tensor(1.1641e-06)	
Iteration: 18000	Total Loss: tensor(38.1065)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(1.3022)	phi BC Loss: tensor(2.4951e-07)	mu
BC Loss: tensor(0.5285)	NS PDE Loss: tensor(2.4388)	NS Div Free Loss: tensor(5.8578e-06)	
Iteration: 18200	Total Loss: tensor(372.0032)		
IC Loss: tensor(0.0056)	u BC Loss: tensor(1.2458)	phi BC Loss: tensor(7.6049e-06)	mu
BC Loss: tensor(0.5331)	NS PDE Loss: tensor(35.7498)	NS Div Free Loss: tensor(1.7086e-05)	
Iteration: 18400	Total Loss: tensor(40.1173)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(1.2804)	phi BC Loss: tensor(1.2160e-05)	mu
BC Loss: tensor(0.5403)	NS PDE Loss: tensor(2.6179)	NS Div Free Loss: tensor(7.6043e-07)	
Iteration: 18600	Total Loss: tensor(38.8741)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3238)	phi BC Loss: tensor(6.8459e-06)	mu
BC Loss: tensor(0.5267)	NS PDE Loss: tensor(2.5325)	NS Div Free Loss: tensor(8.9657e-07)	
Iteration: 18800	Total Loss: tensor(35.0871)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.3229)	phi BC Loss: tensor(3.1596e-05)	mu
BC Loss: tensor(0.5129)	NS PDE Loss: tensor(2.1639)	NS Div Free Loss: tensor(1.0692e-06)	
Iteration: 19000	Total Loss: tensor(193.5641)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3292)	phi BC Loss: tensor(3.6152e-05)	mu
BC Loss: tensor(0.5093)	NS PDE Loss: tensor(18.0137)	NS Div Free Loss: tensor(1.4713e-06)	
Iteration: 19200	Total Loss: tensor(88.7418)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3418)	phi BC Loss: tensor(5.1987e-06)	mu
BC Loss: tensor(0.5151)	NS PDE Loss: tensor(7.5331)	NS Div Free Loss: tensor(1.0001e-06)	
Iteration: 19400	Total Loss: tensor(41.4423)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3297)	phi BC Loss: tensor(2.2537e-05)	mu
BC Loss: tensor(0.5162)	NS PDE Loss: tensor(2.7972)	NS Div Free Loss: tensor(2.6762e-06)	
Iteration: 19600	Total Loss: tensor(36.1922)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3380)	phi BC Loss: tensor(1.5690e-05)	mu
BC Loss: tensor(0.5097)	NS PDE Loss: tensor(2.2791)	NS Div Free Loss: tensor(3.9169e-06)	
Iteration: 19800	Total Loss: tensor(33.2896)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.3429)	phi BC Loss: tensor(5.6504e-07)	mu
BC Loss: tensor(0.5028)	NS PDE Loss: tensor(1.9939)	NS Div Free Loss: tensor(2.6667e-06)	
Iteration: 20000	Total Loss: tensor(39.9175)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.3347)	phi BC Loss: tensor(4.9805e-06)	mu

```

BC Loss: tensor(0.4943)      NS PDE Loss: tensor(2.6619)      NS Div Free Loss: tensor(2.0792e-06)
Current Final Time: 0.9 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(42.1006)
IC Loss: tensor(0.0048)      u BC Loss: tensor(1.5246)      phi BC Loss: tensor(0.)      mu BC Loss:
tensor(0.8572) NS PDE Loss: tensor(2.5430)      NS Div Free Loss: tensor(5.7040e-06)
Iteration: 400 Total Loss: tensor(252.5028)
IC Loss: tensor(0.0047)      u BC Loss: tensor(1.5341)      phi BC Loss: tensor(4.2149e-11)      mu
BC Loss: tensor(0.8460)      NS PDE Loss: tensor(23.5861)      NS Div Free Loss: tensor(2.0765e-06)
Iteration: 600 Total Loss: tensor(45.2371)
IC Loss: tensor(0.0047)      u BC Loss: tensor(1.5321)      phi BC Loss: tensor(6.6367e-09)      mu
BC Loss: tensor(0.8195)      NS PDE Loss: tensor(2.8824)      NS Div Free Loss: tensor(1.8978e-06)
Iteration: 800 Total Loss: tensor(315.9017)
IC Loss: tensor(0.0042)      u BC Loss: tensor(1.5901)      phi BC Loss: tensor(1.2691e-08)      mu
BC Loss: tensor(0.7893)      NS PDE Loss: tensor(29.9829)      NS Div Free Loss: tensor(2.5576e-06)
Iteration: 1000 Total Loss: tensor(27.5780)
IC Loss: tensor(0.0042)      u BC Loss: tensor(1.5792)      phi BC Loss: tensor(8.1977e-07)      mu
BC Loss: tensor(0.7602)      NS PDE Loss: tensor(1.1697)      NS Div Free Loss: tensor(1.3068e-06)
Iteration: 1200 Total Loss: tensor(106.5763)
IC Loss: tensor(0.0064)      u BC Loss: tensor(1.4509)      phi BC Loss: tensor(8.8973e-07)      mu
BC Loss: tensor(0.8259)      NS PDE Loss: tensor(8.8828)      NS Div Free Loss: tensor(3.8484e-06)
Iteration: 1400 Total Loss: tensor(111.2344)
IC Loss: tensor(0.0069)      u BC Loss: tensor(1.4321)      phi BC Loss: tensor(4.4199e-06)      mu
BC Loss: tensor(0.8592)      NS PDE Loss: tensor(9.2872)      NS Div Free Loss: tensor(1.4625e-05)
Iteration: 1600 Total Loss: tensor(109.9668)
IC Loss: tensor(0.0070)      u BC Loss: tensor(1.4296)      phi BC Loss: tensor(1.0581e-08)      mu
BC Loss: tensor(0.8733)      NS PDE Loss: tensor(9.1452)      NS Div Free Loss: tensor(2.2857e-05)
Iteration: 1800 Total Loss: tensor(111.6730)
IC Loss: tensor(0.0069)      u BC Loss: tensor(1.4345)      phi BC Loss: tensor(1.6264e-11)      mu
BC Loss: tensor(0.8781)      NS PDE Loss: tensor(9.3205)      NS Div Free Loss: tensor(2.5764e-05)
Iteration: 2000 Total Loss: tensor(438.8316)
IC Loss: tensor(0.0066)      u BC Loss: tensor(1.4500)      phi BC Loss: tensor(1.5445e-11)      mu
BC Loss: tensor(0.8834)      NS PDE Loss: tensor(42.0541)      NS Div Free Loss: tensor(3.1693e-05)
Iteration: 2200 Total Loss: tensor(30.7538)
IC Loss: tensor(0.0064)      u BC Loss: tensor(1.4638)      phi BC Loss: tensor(0.)      mu BC Loss:
tensor(0.8667) NS PDE Loss: tensor(1.2662)      NS Div Free Loss: tensor(1.2477e-05)
Iteration: 2400 Total Loss: tensor(36.6343)
IC Loss: tensor(0.0045)      u BC Loss: tensor(1.5437)      phi BC Loss: tensor(9.2039e-07)      mu
BC Loss: tensor(0.8053)      NS PDE Loss: tensor(2.0357)      NS Div Free Loss: tensor(6.5049e-06)
Iteration: 2600 Total Loss: tensor(23.4187)
IC Loss: tensor(0.0043)      u BC Loss: tensor(1.5775)      phi BC Loss: tensor(3.4217e-12)      mu
BC Loss: tensor(0.7851)      NS PDE Loss: tensor(0.7342)      NS Div Free Loss: tensor(4.5015e-06)
Iteration: 2800 Total Loss: tensor(141.3864)

```

IC Loss: tensor(0.0046)	u BC Loss: tensor(1.5443)	phi BC Loss: tensor(1.6553e-11)	mu
BC Loss: tensor(0.7846)	NS PDE Loss: tensor(12.5192)	NS Div Free Loss: tensor(5.8091e-06)	
Iteration: 3000	Total Loss: tensor(43.7627)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5782)	phi BC Loss: tensor(2.9173e-10)	mu
BC Loss: tensor(0.7515)	NS PDE Loss: tensor(2.7894)	NS Div Free Loss: tensor(2.1012e-06)	
Iteration: 3200	Total Loss: tensor(34.9099)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5836)	phi BC Loss: tensor(4.0338e-10)	mu
BC Loss: tensor(0.7345)	NS PDE Loss: tensor(1.9134)	NS Div Free Loss: tensor(1.4761e-06)	
Iteration: 3400	Total Loss: tensor(38.9658)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5848)	phi BC Loss: tensor(6.0313e-10)	mu
BC Loss: tensor(0.7246)	NS PDE Loss: tensor(2.3232)	NS Div Free Loss: tensor(3.0794e-06)	
Iteration: 3600	Total Loss: tensor(42.6332)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5853)	phi BC Loss: tensor(1.4985e-09)	mu
BC Loss: tensor(0.7167)	NS PDE Loss: tensor(2.6930)	NS Div Free Loss: tensor(6.2358e-06)	
Iteration: 3800	Total Loss: tensor(46.0628)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5858)	phi BC Loss: tensor(6.7461e-09)	mu
BC Loss: tensor(0.7097)	NS PDE Loss: tensor(3.0391)	NS Div Free Loss: tensor(1.0264e-05)	
Iteration: 4000	Total Loss: tensor(52.1131)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5863)	phi BC Loss: tensor(2.9728e-09)	mu
BC Loss: tensor(0.7034)	NS PDE Loss: tensor(3.6467)	NS Div Free Loss: tensor(1.4489e-05)	
Iteration: 4200	Total Loss: tensor(49.2516)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(4.6713e-09)	mu
BC Loss: tensor(0.6970)	NS PDE Loss: tensor(3.3640)	NS Div Free Loss: tensor(1.9345e-05)	
Iteration: 4400	Total Loss: tensor(49.1175)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(7.0703e-10)	mu
BC Loss: tensor(0.6913)	NS PDE Loss: tensor(3.3531)	NS Div Free Loss: tensor(2.3965e-05)	
Iteration: 4600	Total Loss: tensor(49.0004)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(3.4882e-10)	mu
BC Loss: tensor(0.6861)	NS PDE Loss: tensor(3.3437)	NS Div Free Loss: tensor(2.8518e-05)	
Iteration: 4800	Total Loss: tensor(48.8513)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(2.0294e-10)	mu
BC Loss: tensor(0.6812)	NS PDE Loss: tensor(3.3310)	NS Div Free Loss: tensor(3.3002e-05)	
Iteration: 5000	Total Loss: tensor(55.6158)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5866)	phi BC Loss: tensor(1.0595e-10)	mu
BC Loss: tensor(0.6768)	NS PDE Loss: tensor(4.0092)	NS Div Free Loss: tensor(3.6680e-05)	
Iteration: 5200	Total Loss: tensor(48.4441)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(6.5644e-11)	mu
BC Loss: tensor(0.6722)	NS PDE Loss: tensor(3.2939)	NS Div Free Loss: tensor(4.1734e-05)	
Iteration: 5400	Total Loss: tensor(48.1682)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(4.1654e-11)	mu
BC Loss: tensor(0.6680)	NS PDE Loss: tensor(3.2682)	NS Div Free Loss: tensor(4.6014e-05)	
Iteration: 5600	Total Loss: tensor(47.8958)		

IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5862)	phi BC Loss: tensor(2.8131e-11)	mu
BC Loss: tensor(0.6640)	NS PDE Loss: tensor(3.2428)	NS Div Free Loss: tensor(5.0234e-05)	
Iteration: 5800	Total Loss: tensor(47.6908)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5863)	phi BC Loss: tensor(1.5686e-10)	mu
BC Loss: tensor(0.6602)	NS PDE Loss: tensor(3.2240)	NS Div Free Loss: tensor(5.4379e-05)	
Iteration: 6000	Total Loss: tensor(54.5434)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5869)	phi BC Loss: tensor(1.7275e-10)	mu
BC Loss: tensor(0.6567)	NS PDE Loss: tensor(3.9104)	NS Div Free Loss: tensor(5.7520e-05)	
Iteration: 6200	Total Loss: tensor(47.4504)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5866)	phi BC Loss: tensor(4.3237e-11)	mu
BC Loss: tensor(0.6529)	NS PDE Loss: tensor(3.2030)	NS Div Free Loss: tensor(6.2438e-05)	
Iteration: 6400	Total Loss: tensor(47.2952)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5867)	phi BC Loss: tensor(1.7194e-10)	mu
BC Loss: tensor(0.6494)	NS PDE Loss: tensor(3.1879)	NS Div Free Loss: tensor(6.6311e-05)	
Iteration: 6600	Total Loss: tensor(47.0984)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5868)	phi BC Loss: tensor(1.2185e-10)	mu
BC Loss: tensor(0.6459)	NS PDE Loss: tensor(3.1691)	NS Div Free Loss: tensor(6.9974e-05)	
Iteration: 6800	Total Loss: tensor(46.8563)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5869)	phi BC Loss: tensor(1.3541e-10)	mu
BC Loss: tensor(0.6424)	NS PDE Loss: tensor(3.1465)	NS Div Free Loss: tensor(7.3671e-05)	
Iteration: 7000	Total Loss: tensor(57.4263)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5883)	phi BC Loss: tensor(2.6131e-11)	mu
BC Loss: tensor(0.6399)	NS PDE Loss: tensor(4.2042)	NS Div Free Loss: tensor(7.6135e-05)	
Iteration: 7200	Total Loss: tensor(35.3104)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5759)	phi BC Loss: tensor(1.8477e-09)	mu
BC Loss: tensor(0.6423)	NS PDE Loss: tensor(1.9848)	NS Div Free Loss: tensor(0.0001)	
Iteration: 7400	Total Loss: tensor(198.1431)		
IC Loss: tensor(0.0050)	u BC Loss: tensor(1.5260)	phi BC Loss: tensor(5.9208e-09)	mu
BC Loss: tensor(0.6578)	NS PDE Loss: tensor(18.2183)	NS Div Free Loss: tensor(9.6631e-05)	
Iteration: 7600	Total Loss: tensor(164.6093)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5702)	phi BC Loss: tensor(3.1834e-09)	mu
BC Loss: tensor(0.6509)	NS PDE Loss: tensor(14.9062)	NS Div Free Loss: tensor(8.2032e-05)	
Iteration: 7800	Total Loss: tensor(41.4263)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5837)	phi BC Loss: tensor(1.0246e-10)	mu
BC Loss: tensor(0.6386)	NS PDE Loss: tensor(2.5987)	NS Div Free Loss: tensor(7.9681e-05)	
Iteration: 8000	Total Loss: tensor(69.2777)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5768)	phi BC Loss: tensor(2.5516e-08)	mu
BC Loss: tensor(0.6460)	NS PDE Loss: tensor(5.3808)	NS Div Free Loss: tensor(4.3185e-05)	
Iteration: 8200	Total Loss: tensor(47.0810)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5880)	phi BC Loss: tensor(2.7100e-07)	mu
BC Loss: tensor(0.6378)	NS PDE Loss: tensor(3.1694)	NS Div Free Loss: tensor(4.6224e-05)	
Iteration: 8400	Total Loss: tensor(43.8767)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5896)	phi BC Loss: tensor(9.8481e-07)	mu
BC Loss: tensor(0.6290)	NS PDE Loss: tensor(2.8520)	NS Div Free Loss: tensor(6.3725e-05)	
Iteration: 8600	Total Loss: tensor(43.8963)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5896)	phi BC Loss: tensor(1.5791e-06)	mu
BC Loss: tensor(0.6229)	NS PDE Loss: tensor(2.8566)	NS Div Free Loss: tensor(7.1233e-05)	
Iteration: 8800	Total Loss: tensor(44.1702)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5894)	phi BC Loss: tensor(9.2284e-07)	mu
BC Loss: tensor(0.6185)	NS PDE Loss: tensor(2.8856)	NS Div Free Loss: tensor(7.7597e-05)	
Iteration: 9000	Total Loss: tensor(50.6184)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5898)	phi BC Loss: tensor(2.8057e-06)	mu
BC Loss: tensor(0.6150)	NS PDE Loss: tensor(3.5316)	NS Div Free Loss: tensor(8.2129e-05)	
Iteration: 9200	Total Loss: tensor(47.9935)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5895)	phi BC Loss: tensor(6.3990e-06)	mu
BC Loss: tensor(0.6119)	NS PDE Loss: tensor(3.2705)	NS Div Free Loss: tensor(8.8152e-05)	
Iteration: 9400	Total Loss: tensor(47.8813)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5891)	phi BC Loss: tensor(2.3052e-05)	mu
BC Loss: tensor(0.6089)	NS PDE Loss: tensor(3.2603)	NS Div Free Loss: tensor(9.2685e-05)	
Iteration: 9600	Total Loss: tensor(47.7194)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5889)	phi BC Loss: tensor(2.2386e-05)	mu
BC Loss: tensor(0.6063)	NS PDE Loss: tensor(3.2455)	NS Div Free Loss: tensor(9.6795e-05)	
Iteration: 9800	Total Loss: tensor(47.5195)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5887)	phi BC Loss: tensor(1.5692e-06)	mu
BC Loss: tensor(0.6038)	NS PDE Loss: tensor(3.2265)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10000	Total Loss: tensor(54.1245)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5889)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6016)	NS PDE Loss: tensor(3.8882)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10200	Total Loss: tensor(47.0153)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5883)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5991)	NS PDE Loss: tensor(3.1793)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10400	Total Loss: tensor(46.7429)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5881)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5969)	NS PDE Loss: tensor(3.1535)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10600	Total Loss: tensor(46.3937)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5880)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5949)	NS PDE Loss: tensor(3.1195)	NS Div Free Loss: tensor(0.0001)	
Iteration: 10800	Total Loss: tensor(46.0054)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5878)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5928)	NS PDE Loss: tensor(3.0817)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11000	Total Loss: tensor(52.4178)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5882)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5911)	NS PDE Loss: tensor(3.7237)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11200	Total Loss: tensor(45.1384)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5873)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5890)	NS PDE Loss: tensor(2.9968)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11400	Total Loss: tensor(44.4041)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5873)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5871)	NS PDE Loss: tensor(2.9244)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11600	Total Loss: tensor(45.2513)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5878)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5854)	NS PDE Loss: tensor(3.0102)	NS Div Free Loss: tensor(0.0001)	
Iteration: 11800	Total Loss: tensor(43.0015)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5871)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5835)	NS PDE Loss: tensor(2.7860)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12000	Total Loss: tensor(48.4660)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5878)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5819)	NS PDE Loss: tensor(3.3332)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12200	Total Loss: tensor(39.6109)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5860)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5801)	NS PDE Loss: tensor(2.4483)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12400	Total Loss: tensor(47.4239)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5821)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5829)	NS PDE Loss: tensor(3.2286)	NS Div Free Loss: tensor(0.0001)	
Iteration: 12600	Total Loss: tensor(47.7695)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5810)	phi BC Loss: tensor(3.2094e-12)	mu
BC Loss: tensor(0.5853)	NS PDE Loss: tensor(3.2631)	NS Div Free Loss: tensor(7.4988e-05)	
Iteration: 12800	Total Loss: tensor(44.3225)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5866)	phi BC Loss: tensor(9.1020e-12)	mu
BC Loss: tensor(0.5801)	NS PDE Loss: tensor(2.9237)	NS Div Free Loss: tensor(6.3991e-05)	
Iteration: 13000	Total Loss: tensor(225.1648)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(1.5649)	phi BC Loss: tensor(1.4606e-11)	mu
BC Loss: tensor(0.5875)	NS PDE Loss: tensor(20.9937)	NS Div Free Loss: tensor(5.3007e-05)	
Iteration: 13200	Total Loss: tensor(55.8311)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5674)	phi BC Loss: tensor(5.2887e-10)	mu
BC Loss: tensor(0.5913)	NS PDE Loss: tensor(4.0631)	NS Div Free Loss: tensor(4.8198e-05)	
Iteration: 13400	Total Loss: tensor(250.2632)		
IC Loss: tensor(0.0058)	u BC Loss: tensor(1.4689)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6279)	NS PDE Loss: tensor(23.3959)	NS Div Free Loss: tensor(5.5530e-05)	
Iteration: 13600	Total Loss: tensor(234.9286)		
IC Loss: tensor(0.0067)	u BC Loss: tensor(1.4340)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6671)	NS PDE Loss: tensor(21.7690)	NS Div Free Loss: tensor(3.3742e-05)	
Iteration: 13800	Total Loss: tensor(208.9966)		
IC Loss: tensor(0.0068)	u BC Loss: tensor(1.4311)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6845)	NS PDE Loss: tensor(19.1572)	NS Div Free Loss: tensor(1.7381e-05)	
Iteration: 14000	Total Loss: tensor(57.9071)		

IC Loss: tensor(0.0067)	u BC Loss: tensor(1.4466)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7019)	NS PDE Loss: tensor(4.0494)	NS Div Free Loss: tensor(4.0030e-06)	
Iteration: 14200	Total Loss: tensor(32.9810)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5546)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6639)	NS PDE Loss: tensor(1.7457)	NS Div Free Loss: tensor(5.5114e-06)	
Iteration: 14400	Total Loss: tensor(60.9544)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.5526)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6308)	NS PDE Loss: tensor(4.5606)	NS Div Free Loss: tensor(1.1275e-05)	
Iteration: 14600	Total Loss: tensor(42.6193)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5728)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6103)	NS PDE Loss: tensor(2.7461)	NS Div Free Loss: tensor(1.5972e-05)	
Iteration: 14800	Total Loss: tensor(45.0777)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5750)	phi BC Loss: tensor(4.1090e-13)	mu
BC Loss: tensor(0.6001)	NS PDE Loss: tensor(2.9964)	NS Div Free Loss: tensor(2.2476e-05)	
Iteration: 15000	Total Loss: tensor(52.9099)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5750)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5929)	NS PDE Loss: tensor(3.7823)	NS Div Free Loss: tensor(3.0541e-05)	
Iteration: 15200	Total Loss: tensor(48.3358)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5758)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5875)	NS PDE Loss: tensor(3.3270)	NS Div Free Loss: tensor(3.7142e-05)	
Iteration: 15400	Total Loss: tensor(47.9708)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5759)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5833)	NS PDE Loss: tensor(3.2921)	NS Div Free Loss: tensor(4.3774e-05)	
Iteration: 15600	Total Loss: tensor(45.9754)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5762)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5802)	NS PDE Loss: tensor(3.0938)	NS Div Free Loss: tensor(4.8520e-05)	
Iteration: 15800	Total Loss: tensor(44.6138)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5757)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5775)	NS PDE Loss: tensor(2.9583)	NS Div Free Loss: tensor(5.4233e-05)	
Iteration: 16000	Total Loss: tensor(50.5251)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5753)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5747)	NS PDE Loss: tensor(3.5507)	NS Div Free Loss: tensor(5.9780e-05)	
Iteration: 16200	Total Loss: tensor(43.6327)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5756)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5726)	NS PDE Loss: tensor(2.8620)	NS Div Free Loss: tensor(6.3185e-05)	
Iteration: 16400	Total Loss: tensor(43.2107)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5755)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5705)	NS PDE Loss: tensor(2.8206)	NS Div Free Loss: tensor(6.6924e-05)	
Iteration: 16600	Total Loss: tensor(43.0140)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5755)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5684)	NS PDE Loss: tensor(2.8017)	NS Div Free Loss: tensor(7.0411e-05)	
Iteration: 16800	Total Loss: tensor(42.2262)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5756)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5664)	NS PDE Loss: tensor(2.7237)	NS Div Free Loss: tensor(7.3752e-05)	
Iteration: 17000	Total Loss: tensor(47.9282)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5751)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5644)	NS PDE Loss: tensor(3.2956)	NS Div Free Loss: tensor(7.7960e-05)	
Iteration: 17200	Total Loss: tensor(41.6594)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5756)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5629)	NS PDE Loss: tensor(2.6692)	NS Div Free Loss: tensor(7.9849e-05)	
Iteration: 17400	Total Loss: tensor(41.2284)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5755)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.5608)	NS PDE Loss: tensor(2.6270)	NS Div Free Loss: tensor(8.1887e-05)	
Iteration: 17600	Total Loss: tensor(41.5469)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5754)	phi BC Loss: tensor(2.7226e-13)	mu
BC Loss: tensor(0.5590)	NS PDE Loss: tensor(2.6596)	NS Div Free Loss: tensor(8.3613e-05)	
Iteration: 17800	Total Loss: tensor(41.8463)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5754)	phi BC Loss: tensor(6.3337e-13)	mu
BC Loss: tensor(0.5572)	NS PDE Loss: tensor(2.6903)	NS Div Free Loss: tensor(8.5310e-05)	
Iteration: 18000	Total Loss: tensor(48.5165)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5749)	phi BC Loss: tensor(9.0439e-13)	mu
BC Loss: tensor(0.5554)	NS PDE Loss: tensor(3.3582)	NS Div Free Loss: tensor(8.7990e-05)	
Iteration: 18200	Total Loss: tensor(42.3450)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5753)	phi BC Loss: tensor(1.3170e-12)	mu
BC Loss: tensor(0.5540)	NS PDE Loss: tensor(2.7411)	NS Div Free Loss: tensor(8.8332e-05)	
Iteration: 18400	Total Loss: tensor(42.4632)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5753)	phi BC Loss: tensor(4.3613e-12)	mu
BC Loss: tensor(0.5526)	NS PDE Loss: tensor(2.7533)	NS Div Free Loss: tensor(8.9589e-05)	
Iteration: 18600	Total Loss: tensor(43.3372)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5752)	phi BC Loss: tensor(9.8700e-12)	mu
BC Loss: tensor(0.5514)	NS PDE Loss: tensor(2.8410)	NS Div Free Loss: tensor(9.0817e-05)	
Iteration: 18800	Total Loss: tensor(43.0731)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5752)	phi BC Loss: tensor(9.2124e-12)	mu
BC Loss: tensor(0.5503)	NS PDE Loss: tensor(2.8154)	NS Div Free Loss: tensor(9.0712e-05)	
Iteration: 19000	Total Loss: tensor(50.5539)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5747)	phi BC Loss: tensor(8.5756e-12)	mu
BC Loss: tensor(0.5493)	NS PDE Loss: tensor(3.5634)	NS Div Free Loss: tensor(9.3150e-05)	
Iteration: 19200	Total Loss: tensor(44.7938)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5751)	phi BC Loss: tensor(1.2274e-11)	mu
BC Loss: tensor(0.5487)	NS PDE Loss: tensor(2.9882)	NS Div Free Loss: tensor(9.0738e-05)	
Iteration: 19400	Total Loss: tensor(47.1680)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5759)	phi BC Loss: tensor(1.1908e-11)	mu
BC Loss: tensor(0.5469)	NS PDE Loss: tensor(3.2284)	NS Div Free Loss: tensor(9.2781e-05)	
Iteration: 19600	Total Loss: tensor(47.0968)		

IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5764)	phi BC Loss: tensor(1.2131e-11)	mu
BC Loss: tensor(0.5470)	NS PDE Loss: tensor(3.2224)	NS Div Free Loss: tensor(9.0030e-05)	
Iteration: 19800	Total Loss: tensor(47.9337)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.5724)	phi BC Loss: tensor(1.1896e-11)	mu
BC Loss: tensor(0.5461)	NS PDE Loss: tensor(3.3057)	NS Div Free Loss: tensor(9.5269e-05)	
Iteration: 20000	Total Loss: tensor(54.2857)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.5750)	phi BC Loss: tensor(1.1774e-11)	mu
BC Loss: tensor(0.5447)	NS PDE Loss: tensor(3.9440)	NS Div Free Loss: tensor(9.1532e-05)	
Current Final Time: 1.0 Current Learning Rate: 0.005			
Iteration: 200	Total Loss: tensor(33.1722)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.8407)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9482)	NS PDE Loss: tensor(1.5136)	NS Div Free Loss: tensor(5.0203e-05)	
Iteration: 400	Total Loss: tensor(22.0638)		
IC Loss: tensor(0.0041)	u BC Loss: tensor(1.8440)	phi BC Loss: tensor(1.5691e-12)	mu
BC Loss: tensor(0.8928)	NS PDE Loss: tensor(0.4299)	NS Div Free Loss: tensor(8.3913e-05)	
Iteration: 600	Total Loss: tensor(58.9022)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8138)	phi BC Loss: tensor(9.3775e-14)	mu
BC Loss: tensor(0.8823)	NS PDE Loss: tensor(4.1173)	NS Div Free Loss: tensor(0.0001)	
Iteration: 800	Total Loss: tensor(58.5942)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.8087)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8752)	NS PDE Loss: tensor(4.0880)	NS Div Free Loss: tensor(0.0001)	
Iteration: 1000	Total Loss: tensor(99.7616)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7956)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8618)	NS PDE Loss: tensor(8.2133)	NS Div Free Loss: tensor(0.0001)	
Iteration: 1200	Total Loss: tensor(66.8906)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.8014)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8746)	NS PDE Loss: tensor(4.9108)	NS Div Free Loss: tensor(8.1029e-05)	
Iteration: 1400	Total Loss: tensor(40.3279)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.8123)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8677)	NS PDE Loss: tensor(2.2657)	NS Div Free Loss: tensor(9.1904e-05)	
Iteration: 1600	Total Loss: tensor(23.4032)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(1.7751)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8695)	NS PDE Loss: tensor(0.5563)	NS Div Free Loss: tensor(9.5105e-05)	
Iteration: 1800	Total Loss: tensor(53.0830)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.8086)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8581)	NS PDE Loss: tensor(3.5479)	NS Div Free Loss: tensor(5.0234e-05)	
Iteration: 2000	Total Loss: tensor(46.2153)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8106)	phi BC Loss: tensor(1.2036e-12)	mu
BC Loss: tensor(0.8414)	NS PDE Loss: tensor(2.8754)	NS Div Free Loss: tensor(7.1074e-05)	
Iteration: 2200	Total Loss: tensor(59.4169)		
IC Loss: tensor(0.0075)	u BC Loss: tensor(1.6352)	phi BC Loss: tensor(1.2048e-12)	mu
BC Loss: tensor(0.9153)	NS PDE Loss: tensor(3.9143)	NS Div Free Loss: tensor(7.8495e-05)	

Iteration: 2400	Total Loss: tensor(59.4691)		
IC Loss: tensor(0.0100)	u BC Loss: tensor(1.5801)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9391)	NS PDE Loss: tensor(3.6919)	NS Div Free Loss: tensor(8.0042e-05)	
Iteration: 2600	Total Loss: tensor(71.6197)		
IC Loss: tensor(0.0074)	u BC Loss: tensor(1.6370)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9443)	NS PDE Loss: tensor(5.1303)	NS Div Free Loss: tensor(3.7945e-05)	
Iteration: 2800	Total Loss: tensor(180.6774)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(1.7433)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8958)	NS PDE Loss: tensor(16.2597)	NS Div Free Loss: tensor(4.8121e-05)	
Iteration: 3000	Total Loss: tensor(68.1600)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.7809)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8743)	NS PDE Loss: tensor(5.0501)	NS Div Free Loss: tensor(1.2780e-05)	
Iteration: 3200	Total Loss: tensor(51.4416)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7939)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8557)	NS PDE Loss: tensor(3.3910)	NS Div Free Loss: tensor(1.1090e-05)	
Iteration: 3400	Total Loss: tensor(47.7265)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8042)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8396)	NS PDE Loss: tensor(3.0276)	NS Div Free Loss: tensor(1.7764e-05)	
Iteration: 3600	Total Loss: tensor(47.4360)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8089)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8253)	NS PDE Loss: tensor(3.0073)	NS Div Free Loss: tensor(3.2141e-05)	
Iteration: 3800	Total Loss: tensor(51.9873)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8101)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8144)	NS PDE Loss: tensor(3.4662)	NS Div Free Loss: tensor(4.5343e-05)	
Iteration: 4000	Total Loss: tensor(199.6104)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8288)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8170)	NS PDE Loss: tensor(18.2195)	NS Div Free Loss: tensor(3.9385e-05)	
Iteration: 4200	Total Loss: tensor(129.3712)		
IC Loss: tensor(0.0046)	u BC Loss: tensor(1.7725)	phi BC Loss: tensor(2.4537e-13)	mu
BC Loss: tensor(0.8419)	NS PDE Loss: tensor(11.1739)	NS Div Free Loss: tensor(4.6045e-05)	
Iteration: 4400	Total Loss: tensor(121.8106)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(1.7644)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8529)	NS PDE Loss: tensor(10.4028)	NS Div Free Loss: tensor(2.3995e-05)	
Iteration: 4600	Total Loss: tensor(77.3674)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(1.7572)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8598)	NS PDE Loss: tensor(5.9555)	NS Div Free Loss: tensor(1.0704e-05)	
Iteration: 4800	Total Loss: tensor(166.9614)		
IC Loss: tensor(0.0047)	u BC Loss: tensor(1.7477)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8639)	NS PDE Loss: tensor(14.9169)	NS Div Free Loss: tensor(4.4447e-06)	
Iteration: 5000	Total Loss: tensor(61.6986)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(1.7428)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8695)	NS PDE Loss: tensor(4.3836)	NS Div Free Loss: tensor(1.1777e-06)	

Iteration: 5200	Total Loss: tensor(97.6606)		
IC Loss: tensor(0.0115)	u BC Loss: tensor(1.5179)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9952)	NS PDE Loss: tensor(7.3643)	NS Div Free Loss: tensor(2.9759e-06)	
Iteration: 5400	Total Loss: tensor(94.3848)		
IC Loss: tensor(0.0124)	u BC Loss: tensor(1.4974)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(1.0725)	NS PDE Loss: tensor(6.9175)	NS Div Free Loss: tensor(1.7559e-05)	
Iteration: 5600	Total Loss: tensor(73.0342)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(1.7433)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9476)	NS PDE Loss: tensor(5.4717)	NS Div Free Loss: tensor(3.3223e-05)	
Iteration: 5800	Total Loss: tensor(200.6965)		
IC Loss: tensor(0.0048)	u BC Loss: tensor(1.7501)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8980)	NS PDE Loss: tensor(18.2663)	NS Div Free Loss: tensor(2.8637e-05)	
Iteration: 6000	Total Loss: tensor(128.8757)		
IC Loss: tensor(0.0068)	u BC Loss: tensor(1.6398)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9379)	NS PDE Loss: tensor(10.9146)	NS Div Free Loss: tensor(2.0049e-05)	
Iteration: 6200	Total Loss: tensor(63.6899)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7763)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.9241)	NS PDE Loss: tensor(4.5858)	NS Div Free Loss: tensor(5.6072e-05)	
Iteration: 6400	Total Loss: tensor(58.7895)		
IC Loss: tensor(0.0045)	u BC Loss: tensor(1.7610)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8778)	NS PDE Loss: tensor(4.1085)	NS Div Free Loss: tensor(2.3939e-05)	
Iteration: 6600	Total Loss: tensor(50.2705)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7849)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8517)	NS PDE Loss: tensor(3.2813)	NS Div Free Loss: tensor(1.7574e-05)	
Iteration: 6800	Total Loss: tensor(53.6245)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7894)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8360)	NS PDE Loss: tensor(3.6249)	NS Div Free Loss: tensor(9.7898e-06)	
Iteration: 7000	Total Loss: tensor(42.4846)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8030)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8296)	NS PDE Loss: tensor(2.5103)	NS Div Free Loss: tensor(1.0150e-05)	
Iteration: 7200	Total Loss: tensor(314.8193)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(1.7205)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8539)	NS PDE Loss: tensor(29.6744)	NS Div Free Loss: tensor(9.8014e-07)	
Iteration: 7400	Total Loss: tensor(94.3660)		
IC Loss: tensor(0.0052)	u BC Loss: tensor(1.7216)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8697)	NS PDE Loss: tensor(7.6209)	NS Div Free Loss: tensor(2.7734e-06)	
Iteration: 7600	Total Loss: tensor(53.0378)		
IC Loss: tensor(0.0049)	u BC Loss: tensor(1.7393)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8614)	NS PDE Loss: tensor(3.5109)	NS Div Free Loss: tensor(3.7417e-06)	
Iteration: 7800	Total Loss: tensor(96.6560)		
IC Loss: tensor(0.0059)	u BC Loss: tensor(1.6922)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.8770)	NS PDE Loss: tensor(7.7911)	NS Div Free Loss: tensor(5.3151e-06)	

Iteration: 8000	Total Loss: tensor(126.3008)			
IC Loss: tensor(0.0056)	u BC Loss: tensor(1.6949)	phi BC Loss: tensor(1.0506e-12)	mu	
BC Loss: tensor(0.8782)	NS PDE Loss: tensor(10.7825)	NS Div Free Loss: tensor(3.9130e-06)		
Iteration: 8200	Total Loss: tensor(89.7887)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7965)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.8374)	NS PDE Loss: tensor(7.2284)	NS Div Free Loss: tensor(4.6694e-06)		
Iteration: 8400	Total Loss: tensor(65.7146)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7914)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.8268)	NS PDE Loss: tensor(4.8366)	NS Div Free Loss: tensor(3.8658e-06)		
Iteration: 8600	Total Loss: tensor(42.0319)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7975)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.8123)	NS PDE Loss: tensor(2.4773)	NS Div Free Loss: tensor(2.5966e-06)		
Iteration: 8800	Total Loss: tensor(44.8625)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7981)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.8009)	NS PDE Loss: tensor(2.7658)	NS Div Free Loss: tensor(1.2844e-06)		
Iteration: 9000	Total Loss: tensor(54.5301)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7979)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7919)	NS PDE Loss: tensor(3.7361)	NS Div Free Loss: tensor(1.5280e-06)		
Iteration: 9200	Total Loss: tensor(50.7389)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7987)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7845)	NS PDE Loss: tensor(3.3604)	NS Div Free Loss: tensor(2.5814e-06)		
Iteration: 9400	Total Loss: tensor(52.9968)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7989)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7777)	NS PDE Loss: tensor(3.5891)	NS Div Free Loss: tensor(4.3958e-06)		
Iteration: 9600	Total Loss: tensor(55.1543)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.7994)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7716)	NS PDE Loss: tensor(3.8080)	NS Div Free Loss: tensor(6.7409e-06)		
Iteration: 9800	Total Loss: tensor(57.5557)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8002)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7662)	NS PDE Loss: tensor(4.0509)	NS Div Free Loss: tensor(9.1763e-06)		
Iteration: 10000	Total Loss: tensor(51.7534)			
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.7945)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7637)	NS PDE Loss: tensor(3.4690)	NS Div Free Loss: tensor(1.1994e-05)		
Iteration: 10200	Total Loss: tensor(44.0567)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8003)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7582)	NS PDE Loss: tensor(2.7035)	NS Div Free Loss: tensor(1.3882e-05)		
Iteration: 10400	Total Loss: tensor(45.1259)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8004)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7538)	NS PDE Loss: tensor(2.8123)	NS Div Free Loss: tensor(1.7328e-05)		
Iteration: 10600	Total Loss: tensor(42.0288)			
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8011)	phi BC Loss: tensor(0.)	mu BC Loss:	
tensor(0.7499)	NS PDE Loss: tensor(2.5040)	NS Div Free Loss: tensor(2.0650e-05)		

```

Iteration: 10800      Total Loss: tensor(41.9374)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8014)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7460) NS PDE Loss:  tensor(2.4969)      NS Div Free Loss:  tensor(2.4232e-05)
Iteration: 11000      Total Loss: tensor(49.0654)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8009)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7421) NS PDE Loss:  tensor(3.2115)      NS Div Free Loss:  tensor(2.8615e-05)
Iteration: 11200      Total Loss: tensor(43.3658)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8015)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7387) NS PDE Loss:  tensor(2.6429)      NS Div Free Loss:  tensor(3.1680e-05)
Iteration: 11400      Total Loss: tensor(43.3595)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8019)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7352) NS PDE Loss:  tensor(2.6438)      NS Div Free Loss:  tensor(3.5345e-05)
Iteration: 11600      Total Loss: tensor(43.8053)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8019)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7319) NS PDE Loss:  tensor(2.6902)      NS Div Free Loss:  tensor(3.8787e-05)
Iteration: 11800      Total Loss: tensor(43.6704)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8021)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7287) NS PDE Loss:  tensor(2.6782)      NS Div Free Loss:  tensor(4.2087e-05)
Iteration: 12000      Total Loss: tensor(49.9702)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8019)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7255) NS PDE Loss:  tensor(3.3098)      NS Div Free Loss:  tensor(4.5974e-05)
Iteration: 12200      Total Loss: tensor(44.7939)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8027)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7227) NS PDE Loss:  tensor(2.7939)      NS Div Free Loss:  tensor(4.8378e-05)
Iteration: 12400      Total Loss: tensor(48.6161)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8065)      phi BC Loss:  tensor(4.7110e-08)      mu
BC Loss:  tensor(0.7203)      NS PDE Loss:  tensor(3.1787)      NS Div Free Loss:  tensor(5.1836e-05)
Iteration: 12600      Total Loss: tensor(47.2955)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8024)      phi BC Loss:  tensor(2.0892e-07)      mu
BC Loss:  tensor(0.7171)      NS PDE Loss:  tensor(3.0470)      NS Div Free Loss:  tensor(5.3585e-05)
Iteration: 12800      Total Loss: tensor(45.1866)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8028)      phi BC Loss:  tensor(1.7095e-07)      mu
BC Loss:  tensor(0.7146)      NS PDE Loss:  tensor(2.8377)      NS Div Free Loss:  tensor(5.5845e-05)
Iteration: 13000      Total Loss: tensor(51.1020)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8024)      phi BC Loss:  tensor(7.9791e-08)      mu
BC Loss:  tensor(0.7119)      NS PDE Loss:  tensor(3.4311)      NS Div Free Loss:  tensor(5.8718e-05)
Iteration: 13200      Total Loss: tensor(56.5759)
IC Loss:  tensor(0.0043)      u BC Loss:  tensor(1.8038)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7306) NS PDE Loss:  tensor(3.9627)      NS Div Free Loss:  tensor(5.3890e-05)
Iteration: 13400      Total Loss: tensor(50.7103)
IC Loss:  tensor(0.0043)      u BC Loss:  tensor(1.8015)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.7348) NS PDE Loss:  tensor(3.3746)      NS Div Free Loss:  tensor(4.5159e-05)

```

Iteration: 13600	Total Loss: tensor(42.7813)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8087)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7282)	NS PDE Loss: tensor(2.5872)	NS Div Free Loss: tensor(3.7809e-05)	
Iteration: 13800	Total Loss: tensor(70.7351)		
IC Loss: tensor(0.0044)	u BC Loss: tensor(1.7902)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7399)	NS PDE Loss: tensor(5.3682)	NS Div Free Loss: tensor(2.1600e-05)	
Iteration: 14000	Total Loss: tensor(62.2630)		
IC Loss: tensor(0.0043)	u BC Loss: tensor(1.8051)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7304)	NS PDE Loss: tensor(4.5332)	NS Div Free Loss: tensor(2.1455e-05)	
Iteration: 14200	Total Loss: tensor(45.2255)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8144)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7186)	NS PDE Loss: tensor(2.8381)	NS Div Free Loss: tensor(2.9363e-05)	
Iteration: 14400	Total Loss: tensor(42.2060)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8175)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7097)	NS PDE Loss: tensor(2.5405)	NS Div Free Loss: tensor(3.8323e-05)	
Iteration: 14600	Total Loss: tensor(42.1766)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8175)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.7037)	NS PDE Loss: tensor(2.5396)	NS Div Free Loss: tensor(4.4281e-05)	
Iteration: 14800	Total Loss: tensor(42.3608)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8171)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6994)	NS PDE Loss: tensor(2.5594)	NS Div Free Loss: tensor(4.8731e-05)	
Iteration: 15000	Total Loss: tensor(48.4131)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8172)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6963)	NS PDE Loss: tensor(3.1669)	NS Div Free Loss: tensor(5.1369e-05)	
Iteration: 15200	Total Loss: tensor(42.6812)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8159)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6931)	NS PDE Loss: tensor(2.5951)	NS Div Free Loss: tensor(5.4668e-05)	
Iteration: 15400	Total Loss: tensor(42.6430)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8154)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6906)	NS PDE Loss: tensor(2.5923)	NS Div Free Loss: tensor(5.6441e-05)	
Iteration: 15600	Total Loss: tensor(42.5934)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8149)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6883)	NS PDE Loss: tensor(2.5879)	NS Div Free Loss: tensor(5.7953e-05)	
Iteration: 15800	Total Loss: tensor(42.5159)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8147)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6862)	NS PDE Loss: tensor(2.5811)	NS Div Free Loss: tensor(5.9153e-05)	
Iteration: 16000	Total Loss: tensor(48.7719)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8148)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6844)	NS PDE Loss: tensor(3.2073)	NS Div Free Loss: tensor(5.9252e-05)	
Iteration: 16200	Total Loss: tensor(44.9855)		
IC Loss: tensor(0.0042)	u BC Loss: tensor(1.8137)	phi BC Loss: tensor(0.)	mu BC Loss:
tensor(0.6827)	NS PDE Loss: tensor(2.8295)	NS Div Free Loss: tensor(6.0486e-05)	

```

Iteration: 16400      Total Loss: tensor(45.8688)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8138)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6810) NS PDE Loss:  tensor(2.9186)      NS Div Free Loss:  tensor(6.0887e-05)
Iteration: 16600      Total Loss: tensor(42.9781)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8127)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6806) NS PDE Loss:  tensor(2.6304)      NS Div Free Loss:  tensor(6.2200e-05)
Iteration: 16800      Total Loss: tensor(44.0006)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8112)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6781) NS PDE Loss:  tensor(2.7329)      NS Div Free Loss:  tensor(6.2217e-05)
Iteration: 17000      Total Loss: tensor(51.4426)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8146)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6761) NS PDE Loss:  tensor(3.4790)      NS Div Free Loss:  tensor(6.3992e-05)
Iteration: 17200      Total Loss: tensor(45.4897)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8125)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6746) NS PDE Loss:  tensor(2.8842)      NS Div Free Loss:  tensor(6.4384e-05)
Iteration: 17400      Total Loss: tensor(46.0436)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8139)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6729) NS PDE Loss:  tensor(2.9415)      NS Div Free Loss:  tensor(6.5192e-05)
Iteration: 17600      Total Loss: tensor(45.0390)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8168)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6729) NS PDE Loss:  tensor(2.8421)      NS Div Free Loss:  tensor(6.4361e-05)
Iteration: 17800      Total Loss: tensor(45.1994)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8131)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6707) NS PDE Loss:  tensor(2.8581)      NS Div Free Loss:  tensor(6.5358e-05)
Iteration: 18000      Total Loss: tensor(51.7755)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8150)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6700) NS PDE Loss:  tensor(3.5166)      NS Div Free Loss:  tensor(6.1873e-05)
Iteration: 18200      Total Loss: tensor(44.9280)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8134)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6660) NS PDE Loss:  tensor(2.8331)      NS Div Free Loss:  tensor(6.7003e-05)
Iteration: 18400      Total Loss: tensor(45.5013)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8134)      phi BC Loss:  tensor(3.1484e-06)      mu
BC Loss:  tensor(0.6660)      NS PDE Loss:  tensor(2.8905)      NS Div Free Loss:  tensor(6.6979e-05)
Iteration: 18600      Total Loss: tensor(45.9927)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8131)      phi BC Loss:  tensor(3.8631e-06)      mu
BC Loss:  tensor(0.6650)      NS PDE Loss:  tensor(2.9404)      NS Div Free Loss:  tensor(6.6646e-05)
Iteration: 18800      Total Loss: tensor(45.6289)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8125)      phi BC Loss:  tensor(1.1854e-05)      mu
BC Loss:  tensor(0.6638)      NS PDE Loss:  tensor(2.9045)      NS Div Free Loss:  tensor(6.6364e-05)
Iteration: 19000      Total Loss: tensor(52.5226)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8112)      phi BC Loss:  tensor(7.5699e-06)      mu
BC Loss:  tensor(0.6637)      NS PDE Loss:  tensor(3.5934)      NS Div Free Loss:  tensor(6.4115e-05)

```

```

Iteration: 19200      Total Loss: tensor(45.4437)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8097)      phi BC Loss:  tensor(8.8373e-07)      mu
BC Loss:  tensor(0.6598)      NS PDE Loss:  tensor(2.8872)      NS Div Free Loss:  tensor(6.6658e-05)
Iteration: 19400      Total Loss: tensor(45.9966)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8144)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6592) NS PDE Loss:  tensor(2.9442)      NS Div Free Loss:  tensor(6.6149e-05)
Iteration: 19600      Total Loss: tensor(45.4215)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8111)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6592) NS PDE Loss:  tensor(2.8857)      NS Div Free Loss:  tensor(6.6590e-05)
Iteration: 19800      Total Loss: tensor(45.0755)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8086)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6566) NS PDE Loss:  tensor(2.8517)      NS Div Free Loss:  tensor(6.7397e-05)
Iteration: 20000      Total Loss: tensor(52.1526)
IC Loss:  tensor(0.0042)      u BC Loss:  tensor(1.8142)      phi BC Loss:  tensor(0.)      mu BC Loss:
tensor(0.6556) NS PDE Loss:  tensor(3.5612)      NS Div Free Loss:  tensor(6.5483e-05)
Executing Pass 2
Current Final Time: 0.1 Current Learning Rate: 0.001
Current Final Time: 0.2 Current Learning Rate: 0.001
Current Final Time: 0.3 Current Learning Rate: 0.001
Current Final Time: 0.4 Current Learning Rate: 0.001
Current Final Time: 0.5 Current Learning Rate: 0.001
Current Final Time: 0.6 Current Learning Rate: 0.001
Current Final Time: 0.7 Current Learning Rate: 0.001
Current Final Time: 0.8 Current Learning Rate: 0.001
Current Final Time: 0.9 Current Learning Rate: 0.001
Current Final Time: 1.0 Current Learning Rate: 0.001
Executing Pass 3
Current Final Time: 0.1 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.2 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.3 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.4 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.5 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.6 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.7 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.8 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 0.9 Current Learning Rate: 4.9999999999999996e-06
Current Final Time: 1.0 Current Learning Rate: 4.9999999999999996e-06
Executing Pass 4
Current Final Time: 0.1 Current Learning Rate: 1e-06
Current Final Time: 0.2 Current Learning Rate: 1e-06
Current Final Time: 0.3 Current Learning Rate: 1e-06
Current Final Time: 0.4 Current Learning Rate: 1e-06

```



```
Current Final Time: 0.5 Current Learning Rate: 1e-06
Current Final Time: 0.6 Current Learning Rate: 1e-06
Current Final Time: 0.7 Current Learning Rate: 1e-06
Current Final Time: 0.8 Current Learning Rate: 1e-06
Current Final Time: 0.9 Current Learning Rate: 1e-06
Current Final Time: 1.0 Current Learning Rate: 1e-06
Total Time:      24623.822449207306
Pass 1 Time:     24615.81333398819
Pass 2 Time:     24618.311825037003
Pass 3 Time:     24620.791126012802
Pass 4 Time:     24623.81831908226
```

In []:

In []: