```python
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 MvBdry_Coefficient_and_Loss import lossMvBdry
from BoundaryLoss import lossBdry
from InitialConditionLoss import lossIC, lossIC_with



def create_network(IC_Only_Train):

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

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

    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, 20000, 10**-3, 'IC_Only.pt', record_loss = 100, p
        IC_Done = time.time()
        print('IC Time:\t', IC_Done-start)

        return 0
```

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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): #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 = 20000
        learning_rate = 5*10**-4
    elif i == 2:
        print('Executing Pass 3')
        iterations = 20000
        learning_rate = 5*10**-5
    elif i ==3:
        print('Executing Pass 4')
        iterations = 2 #0000
        learning_rate = 10**-5

    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()
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        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[:


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 bouund updated in slices
    t_l = 0

    #Pick IC/Mv Bdry/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)
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        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 bouund updated in slices
    t_l = net.t_l

    #Pick IC/Mv Bdry/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, prir
    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")
```

```python
    # 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

    ##Define Colloacation Points with Initial Condition
    #IC_collocation = collocation

    #define in numpy
    #x_IC = np.random.uniform(low=x_l, high=x_u, size=(IC_collocation,1))
    #y_IC = np.random.uniform(low=y_l, high=y_u, size=(IC_collocation,1))

    #move to pytorch tensors
    #input_x_IC = Variable(torch.from_numpy(x_IC).float(), requires_grad=True).to(device)
    #input_y_IC = Variable(torch.from_numpy(y_IC).float(), requires_grad=True).to(device)


    #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_nonfinit

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

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            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.
```

```python
###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 = lossBdry(net, x_Bdry, y_Bdry, t_Bdry, x_l_Bdry, x_u_Bdry, y_l_Bdry, y_u_Bdry)
# 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_

#Loss based on Moving Boundary
mse_MvBdry = lossMvBdry(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()
    MvBdry_regular = mse_MvBdry.detach()

raw_loss = IC_coefficient * mse_IC + mse_BC + mse_NS + mse_MvBdry

mse_IC = mse_IC #/IC_regular
mse_BC = mse_BC #/BC_regular
mse_NS = mse_NS #/pde_regular
mse_NSdiv = mse_NSdiv #/pde_regular
mse_MvBdry = mse_MvBdry #/MvBdry_regular

#Combine all Loss functions
```

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        loss = mse_BC + 50 * mse_MvBdry + 10**8 *mse_IC  + mse_NS + 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_

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

    #Gradient Value Clipping
    #nn.utils.clip_grad_value_(net.parameters(), clip_value=1.0)
    net.optimizer.step()
    # Gradient Norm Clipping
    torch.nn.utils.clip_grad_norm_(net.parameters(), max_norm= 5*10**2, norm_type=1, error_if_nonf

    #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, "\tBC Loss: ", mse_BC.data, "\tNS PDE Loss: ", mse_NS.


create_network(True)
create_network(False)
```

```
Training Only on the Initial Condition
Iteration: 1000 Initial Condition Loss: tensor(0.0555)
Iteration: 2000 Initial Condition Loss: tensor(0.0222)
Iteration: 3000 Initial Condition Loss: tensor(0.0121)
Iteration: 4000 Initial Condition Loss: tensor(0.0072)
Iteration: 5000 Initial Condition Loss: tensor(0.0045)
Iteration: 6000 Initial Condition Loss: tensor(0.0029)
Iteration: 7000 Initial Condition Loss: tensor(0.0036)
Iteration: 8000 Initial Condition Loss: tensor(0.0016)
Iteration: 9000 Initial Condition Loss: tensor(0.0012)
Iteration: 10000 Initial Condition Loss: tensor(0.0008)
Iteration: 11000 Initial Condition Loss: tensor(0.0015)
Iteration: 12000 Initial Condition Loss: tensor(0.0008)
Iteration: 13000 Initial Condition Loss: tensor(0.0006)
Iteration: 14000 Initial Condition Loss: tensor(0.0004)
Iteration: 15000 Initial Condition Loss: tensor(0.0003)
Iteration: 16000 Initial Condition Loss: tensor(0.0025)
Iteration: 17000 Initial Condition Loss: tensor(0.0012)
Iteration: 18000 Initial Condition Loss: tensor(0.0007)
Iteration: 19000 Initial Condition Loss: tensor(0.0005)
Iteration: 20000 Initial Condition Loss: tensor(0.0003)
IC Time:        121.53422498703003
Training PDE
Executing Pass 1
Current Final Time: 0.1 Current Learning Rate:  0.005
Iteration: 200  Total Loss: tensor(1.9837e+08)
IC Loss:  tensor(0.1572)       BC Loss:  tensor(1.0626)       NS PDE Loss:  tensor(90.2740)   NS Div Free
Loss:  tensor(1.7698e-17)      Mv Bdry Loss:  tensor(3652937.5000)
Iteration: 400  Total Loss: tensor(1.7685e+08)
IC Loss:  tensor(0.6900)       BC Loss:  tensor(0.8812)       NS PDE Loss:  tensor(91.4619)   NS Div Free
Loss:  tensor(2.6375e-17)      Mv Bdry Loss:  tensor(2157024.)
Iteration: 600  Total Loss: tensor(3.5944e+08)
IC Loss:  tensor(3.3680)       BC Loss:  tensor(0.9095)       NS PDE Loss:  tensor(88.6980)   NS Div Free
Loss:  tensor(1.8699e-17)      Mv Bdry Loss:  tensor(452776.6875)
Iteration: 800  Total Loss: tensor(5.6197e+08)
IC Loss:  tensor(5.4435)       BC Loss:  tensor(0.5380)       NS PDE Loss:  tensor(92.4735)   NS Div Free
Loss:  tensor(1.8068e-17)      Mv Bdry Loss:  tensor(352293.9062)
Iteration: 1000        Total Loss: tensor(2.0302e+09)
IC Loss:  tensor(18.3577)      BC Loss:  tensor(0.4054)       NS PDE Loss:  tensor(89.3422)   NS Div Free
Loss:  tensor(2.8984e-16)      Mv Bdry Loss:  tensor(3888759.5000)
Iteration: 1200        Total Loss: tensor(3.3392e+09)
IC Loss:  tensor(32.5213)      BC Loss:  tensor(0.3434)       NS PDE Loss:  tensor(90.8329)   NS Div Free
```

```
Loss:  tensor(1.4148e-16)       Mv Bdry Loss:  tensor(1741273.2500)
Iteration: 1400       Total Loss: tensor(41408452.)
IC Loss:  tensor(0.2650)        BC Loss:  tensor(0.3071)        NS PDE Loss:  tensor(92.2465)   NS Div Free
Loss:  tensor(1.7146e-18)       Mv Bdry Loss:  tensor(298069.2500)
Iteration: 1600       Total Loss: tensor(1.0489e+09)
IC Loss:  tensor(10.3154)       BC Loss:  tensor(0.1533)        NS PDE Loss:  tensor(92.5196)   NS Div Free
Loss:  tensor(2.0006e-19)       Mv Bdry Loss:  tensor(346843.3750)
Iteration: 1800       Total Loss: tensor(63817160.)
IC Loss:  tensor(0.2464)        BC Loss:  tensor(0.0876)        NS PDE Loss:  tensor(89.2616)   NS Div Free
Loss:  tensor(1.6755e-17)       Mv Bdry Loss:  tensor(783467.5000)
Iteration: 2000       Total Loss: tensor(6.8251e+08)
IC Loss:  tensor(4.0686)        BC Loss:  tensor(0.0692)        NS PDE Loss:  tensor(90.4110)   NS Div Free
Loss:  tensor(5.8051e-18)       Mv Bdry Loss:  tensor(5513060.)
Iteration: 2200       Total Loss: tensor(1.2904e+08)
IC Loss:  tensor(1.0325)        BC Loss:  tensor(0.0818)        NS PDE Loss:  tensor(90.2690)   NS Div Free
Loss:  tensor(3.2155e-16)       Mv Bdry Loss:  tensor(515768.6250)
Iteration: 2400       Total Loss: tensor(19615966.)
IC Loss:  tensor(0.0942)        BC Loss:  tensor(0.7342)        NS PDE Loss:  tensor(92.2117)   NS Div Free
Loss:  tensor(5.2499e-19)       Mv Bdry Loss:  tensor(203847.5000)
Iteration: 2600       Total Loss: tensor(25393496.)
IC Loss:  tensor(0.0988)        BC Loss:  tensor(0.2790)        NS PDE Loss:  tensor(91.6788)   NS Div Free
Loss:  tensor(1.0737e-18)       Mv Bdry Loss:  tensor(310220.9375)
Iteration: 2800       Total Loss: tensor(30034650.)
IC Loss:  tensor(0.1319)        BC Loss:  tensor(0.1521)        NS PDE Loss:  tensor(90.7363)   NS Div Free
Loss:  tensor(1.6227e-18)       Mv Bdry Loss:  tensor(336985.8750)
Iteration: 3000       Total Loss: tensor(18795602.)
IC Loss:  tensor(0.0616)        BC Loss:  tensor(0.2434)        NS PDE Loss:  tensor(92.4191)   NS Div Free
Loss:  tensor(1.8854e-19)       Mv Bdry Loss:  tensor(252707.2188)
Iteration: 3200       Total Loss: tensor(16846040.)
IC Loss:  tensor(0.0608)        BC Loss:  tensor(0.2183)        NS PDE Loss:  tensor(91.5148)   NS Div Free
Loss:  tensor(2.5464e-17)       Mv Bdry Loss:  tensor(215329.1094)
Iteration: 3400       Total Loss: tensor(85921944.)
IC Loss:  tensor(0.8148)        BC Loss:  tensor(0.0454)        NS PDE Loss:  tensor(89.2084)   NS Div Free
Loss:  tensor(4.0917e-17)       Mv Bdry Loss:  tensor(88888.1797)
Iteration: 3600       Total Loss: tensor(9621900.)
IC Loss:  tensor(0.0521)        BC Loss:  tensor(0.0474)        NS PDE Loss:  tensor(89.5153)   NS Div Free
Loss:  tensor(4.3019e-19)       Mv Bdry Loss:  tensor(88193.4062)
Iteration: 3800       Total Loss: tensor(7737349.)
IC Loss:  tensor(0.0481)        BC Loss:  tensor(0.0323)        NS PDE Loss:  tensor(87.9453)   NS Div Free
Loss:  tensor(1.8376e-17)       Mv Bdry Loss:  tensor(58520.6250)
Iteration: 4000       Total Loss: tensor(49664316.)
IC Loss:  tensor(0.4818)        BC Loss:  tensor(0.0306)        NS PDE Loss:  tensor(82.9413)   NS Div Free
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Loss:  tensor(2.2597e-17)      Mv Bdry Loss:  tensor(29640.7656)
Iteration: 4200        Total Loss: tensor(47563804.)
IC Loss:  tensor(0.4471)        BC Loss:  tensor(0.0272)        NS PDE Loss:  tensor(82.9736)   NS Div Free
Loss:  tensor(1.5647e-16)      Mv Bdry Loss:  tensor(57033.6406)
Iteration: 4400        Total Loss: tensor(21523324.)
IC Loss:  tensor(0.1900)        BC Loss:  tensor(0.0181)        NS PDE Loss:  tensor(85.3945)   NS Div Free
Loss:  tensor(2.7234e-17)      Mv Bdry Loss:  tensor(50520.9609)
Iteration: 4600        Total Loss: tensor(9200544.)
IC Loss:  tensor(0.0669)        BC Loss:  tensor(0.0156)        NS PDE Loss:  tensor(82.7302)   NS Div Free
Loss:  tensor(5.9047e-18)      Mv Bdry Loss:  tensor(50281.7031)
Iteration: 4800        Total Loss: tensor(14316243.)
IC Loss:  tensor(0.1334)        BC Loss:  tensor(0.0199)        NS PDE Loss:  tensor(77.3772)   NS Div Free
Loss:  tensor(3.7925e-16)      Mv Bdry Loss:  tensor(19495.0703)
Iteration: 5000        Total Loss: tensor(18894606.)
IC Loss:  tensor(0.1752)        BC Loss:  tensor(0.0173)        NS PDE Loss:  tensor(79.1869)   NS Div Free
Loss:  tensor(3.0877e-18)      Mv Bdry Loss:  tensor(27529.4180)
Iteration: 5200        Total Loss: tensor(8405648.)
IC Loss:  tensor(0.0646)        BC Loss:  tensor(0.0181)        NS PDE Loss:  tensor(86.7486)   NS Div Free
Loss:  tensor(7.2278e-19)      Mv Bdry Loss:  tensor(38898.7422)
Iteration: 5400        Total Loss: tensor(5195318.)
IC Loss:  tensor(0.0389)        BC Loss:  tensor(0.0194)        NS PDE Loss:  tensor(76.9968)   NS Div Free
Loss:  tensor(4.4302e-19)      Mv Bdry Loss:  tensor(26048.5938)
Iteration: 5600        Total Loss: tensor(6549866.5000)
IC Loss:  tensor(0.0534)        BC Loss:  tensor(0.0119)        NS PDE Loss:  tensor(74.3782)   NS Div Free
Loss:  tensor(1.0642e-16)      Mv Bdry Loss:  tensor(24219.5352)
Iteration: 5800        Total Loss: tensor(9033445.)
IC Loss:  tensor(0.0830)        BC Loss:  tensor(0.0246)        NS PDE Loss:  tensor(68.8329)   NS Div Free
Loss:  tensor(6.4138e-18)      Mv Bdry Loss:  tensor(14622.4111)
Iteration: 6000        Total Loss: tensor(58511544.)
IC Loss:  tensor(0.5765)        BC Loss:  tensor(0.0011)        NS PDE Loss:  tensor(63.1275)   NS Div Free
Loss:  tensor(2.6502e-17)      Mv Bdry Loss:  tensor(17209.8672)
Iteration: 6200        Total Loss: tensor(8703900.)
IC Loss:  tensor(0.0798)        BC Loss:  tensor(0.0006)        NS PDE Loss:  tensor(57.7793)   NS Div Free
Loss:  tensor(1.0988e-16)      Mv Bdry Loss:  tensor(14468.9980)
Iteration: 6400        Total Loss: tensor(9099733.)
IC Loss:  tensor(0.0497)        BC Loss:  tensor(0.0007)        NS PDE Loss:  tensor(71.9037)   NS Div Free
Loss:  tensor(1.8914e-18)      Mv Bdry Loss:  tensor(82566.2578)
Iteration: 6600        Total Loss: tensor(11365804.)
IC Loss:  tensor(0.0492)        BC Loss:  tensor(0.0006)        NS PDE Loss:  tensor(91.5059)   NS Div Free
Loss:  tensor(5.2860e-19)      Mv Bdry Loss:  tensor(128912.6172)
Iteration: 6800        Total Loss: tensor(19711566.)
IC Loss:  tensor(0.1802)        BC Loss:  tensor(0.0006)        NS PDE Loss:  tensor(83.7531)   NS Div Free
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```
Loss:  tensor(4.3822e-19)     Mv Bdry Loss:  tensor(33778.3828)
Iteration: 7000      Total Loss: tensor(43702956.)
IC Loss:  tensor(0.4251)      BC Loss:  tensor(0.0005)      NS PDE Loss:  tensor(83.2478)   NS Div Free
Loss:  tensor(2.1979e-17)     Mv Bdry Loss:  tensor(23846.0391)
Iteration: 7200      Total Loss: tensor(8850794.)
IC Loss:  tensor(0.0810)      BC Loss:  tensor(0.0005)      NS PDE Loss:  tensor(71.1714)   NS Div Free
Loss:  tensor(6.9023e-17)     Mv Bdry Loss:  tensor(15070.3418)
Iteration: 7400      Total Loss: tensor(4819347.)
IC Loss:  tensor(0.0418)      BC Loss:  tensor(0.0005)      NS PDE Loss:  tensor(53.5997)   NS Div Free
Loss:  tensor(5.1102e-16)     Mv Bdry Loss:  tensor(12868.4219)
Iteration: 7600      Total Loss: tensor(6211129.)
IC Loss:  tensor(0.0528)      BC Loss:  tensor(0.0006)      NS PDE Loss:  tensor(60.9494)   NS Div Free
Loss:  tensor(5.3264e-17)     Mv Bdry Loss:  tensor(18573.6719)
Iteration: 7800      Total Loss: tensor(11789865.)
IC Loss:  tensor(0.1130)      BC Loss:  tensor(0.0005)      NS PDE Loss:  tensor(59.8483)   NS Div Free
Loss:  tensor(2.4775e-17)     Mv Bdry Loss:  tensor(9823.3223)
Iteration: 8000      Total Loss: tensor(5926786.)
IC Loss:  tensor(0.0531)      BC Loss:  tensor(0.0004)      NS PDE Loss:  tensor(55.4550)   NS Div Free
Loss:  tensor(4.5715e-16)     Mv Bdry Loss:  tensor(12322.9990)
Iteration: 8200      Total Loss: tensor(13531222.)
IC Loss:  tensor(0.1309)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(62.6190)   NS Div Free
Loss:  tensor(2.4327e-17)     Mv Bdry Loss:  tensor(8748.0723)
Iteration: 8400      Total Loss: tensor(6409455.5000)
IC Loss:  tensor(0.0266)      BC Loss:  tensor(0.0003)      NS PDE Loss:  tensor(91.3181)   NS Div Free
Loss:  tensor(3.0619e-18)     Mv Bdry Loss:  tensor(75042.5312)
Iteration: 8600      Total Loss: tensor(24678412.)
IC Loss:  tensor(0.2304)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(73.0842)   NS Div Free
Loss:  tensor(2.1776e-16)     Mv Bdry Loss:  tensor(32727.4375)
Iteration: 8800      Total Loss: tensor(97039288.)
IC Loss:  tensor(0.9564)      BC Loss:  tensor(0.0016)      NS PDE Loss:  tensor(63.0635)   NS Div Free
Loss:  tensor(9.5815e-16)     Mv Bdry Loss:  tensor(28012.2930)
Iteration: 9000      Total Loss: tensor(4299826.)
IC Loss:  tensor(0.0391)      BC Loss:  tensor(0.0003)      NS PDE Loss:  tensor(59.5025)   NS Div Free
Loss:  tensor(6.0897e-17)     Mv Bdry Loss:  tensor(7818.9175)
Iteration: 9200      Total Loss: tensor(5469615.)
IC Loss:  tensor(0.0477)      BC Loss:  tensor(0.0004)      NS PDE Loss:  tensor(58.9211)   NS Div Free
Loss:  tensor(1.5795e-18)     Mv Bdry Loss:  tensor(14059.7559)
Iteration: 9400      Total Loss: tensor(4150998.)
IC Loss:  tensor(0.0357)      BC Loss:  tensor(0.0004)      NS PDE Loss:  tensor(76.6225)   NS Div Free
Loss:  tensor(3.4077e-16)     Mv Bdry Loss:  tensor(11565.6846)
Iteration: 9600      Total Loss: tensor(2850225.7500)
IC Loss:  tensor(0.0260)      BC Loss:  tensor(0.0020)      NS PDE Loss:  tensor(64.1996)   NS Div Free
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Loss:  tensor(5.2037e-17)      Mv Bdry Loss:  tensor(4986.1484)
Iteration: 9800      Total Loss: tensor(5166542.)
IC Loss:  tensor(0.0443)      BC Loss:  tensor(0.0004)      NS PDE Loss:  tensor(72.8372)   NS Div Free
Loss:  tensor(9.0079e-20)      Mv Bdry Loss:  tensor(14705.2852)
Iteration: 10000      Total Loss: tensor(3533365.5000)
IC Loss:  tensor(0.0295)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(71.0104)   NS Div Free
Loss:  tensor(7.3441e-18)      Mv Bdry Loss:  tensor(11694.3623)
Iteration: 10200      Total Loss: tensor(9124940.)
IC Loss:  tensor(0.0582)      BC Loss:  tensor(0.0004)      NS PDE Loss:  tensor(58.1082)   NS Div Free
Loss:  tensor(1.8149e-17)      Mv Bdry Loss:  tensor(66027.4844)
Iteration: 10400      Total Loss: tensor(20405624.)
IC Loss:  tensor(0.1869)      BC Loss:  tensor(0.0001)      NS PDE Loss:  tensor(83.7298)   NS Div Free
Loss:  tensor(8.4595e-18)      Mv Bdry Loss:  tensor(34342.7383)
Iteration: 10600      Total Loss: tensor(5200374.5000)
IC Loss:  tensor(0.0462)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(70.9660)   NS Div Free
Loss:  tensor(1.4416e-19)      Mv Bdry Loss:  tensor(11689.4434)
Iteration: 10800      Total Loss: tensor(2525804.2500)
IC Loss:  tensor(0.0226)      BC Loss:  tensor(0.0001)      NS PDE Loss:  tensor(70.2576)   NS Div Free
Loss:  tensor(6.5190e-18)      Mv Bdry Loss:  tensor(5243.0244)
Iteration: 11000      Total Loss: tensor(2939035.2500)
IC Loss:  tensor(0.0238)      BC Loss:  tensor(0.0001)      NS PDE Loss:  tensor(79.1559)   NS Div Free
Loss:  tensor(3.8430e-18)      Mv Bdry Loss:  tensor(11192.6709)
Iteration: 11200      Total Loss: tensor(27287514.)
IC Loss:  tensor(0.2631)      BC Loss:  tensor(8.2864e-05)   NS PDE Loss:  tensor(76.7105)   NS Div Free
Loss:  tensor(9.4463e-17)      Mv Bdry Loss:  tensor(19531.8535)
Iteration: 11400      Total Loss: tensor(2072101.2500)
IC Loss:  tensor(0.0178)      BC Loss:  tensor(0.0032)      NS PDE Loss:  tensor(67.9662)   NS Div Free
Loss:  tensor(3.9049e-18)      Mv Bdry Loss:  tensor(5750.3037)
Iteration: 11600      Total Loss: tensor(5529347.5000)
IC Loss:  tensor(0.0537)      BC Loss:  tensor(9.0748e-05)   NS PDE Loss:  tensor(68.4028)   NS Div Free
Loss:  tensor(2.3117e-17)      Mv Bdry Loss:  tensor(3166.7378)
Iteration: 11800      Total Loss: tensor(2979255.)
IC Loss:  tensor(0.0282)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(66.1689)   NS Div Free
Loss:  tensor(1.3275e-18)      Mv Bdry Loss:  tensor(3164.8564)
Iteration: 12000      Total Loss: tensor(2726496.7500)
IC Loss:  tensor(0.0252)      BC Loss:  tensor(1.2307e-05)   NS PDE Loss:  tensor(71.5586)   NS Div Free
Loss:  tensor(4.3794e-18)      Mv Bdry Loss:  tensor(4153.6665)
Iteration: 12200      Total Loss: tensor(2410777.5000)
IC Loss:  tensor(0.0210)      BC Loss:  tensor(4.4639e-06)   NS PDE Loss:  tensor(74.9504)   NS Div Free
Loss:  tensor(1.8720e-17)      Mv Bdry Loss:  tensor(6148.8574)
Iteration: 12400      Total Loss: tensor(2360947.)
IC Loss:  tensor(0.0198)      BC Loss:  tensor(3.9710e-06)   NS PDE Loss:  tensor(75.7612)   NS Div Free
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Loss:  tensor(1.7314e-19)      Mv Bdry Loss:  tensor(7683.3960)
Iteration: 12600      Total Loss: tensor(1680153.7500)
IC Loss:  tensor(0.0152)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(69.2704)   NS Div Free
Loss:  tensor(4.5365e-19)      Mv Bdry Loss:  tensor(3233.8831)
Iteration: 12800      Total Loss: tensor(1630788.8750)
IC Loss:  tensor(0.0157)      BC Loss:  tensor(4.8649e-06)   NS PDE Loss:  tensor(39.0698)   NS Div Free
Loss:  tensor(6.0053e-17)      Mv Bdry Loss:  tensor(1175.8501)
Iteration: 13000      Total Loss: tensor(1280543.)
IC Loss:  tensor(0.0119)      BC Loss:  tensor(1.4331e-06)   NS PDE Loss:  tensor(31.4605)   NS Div Free
Loss:  tensor(2.5566e-16)      Mv Bdry Loss:  tensor(1817.5735)
Iteration: 13200      Total Loss: tensor(1616122.2500)
IC Loss:  tensor(0.0158)      BC Loss:  tensor(1.3317e-06)   NS PDE Loss:  tensor(32.8318)   NS Div Free
Loss:  tensor(2.9794e-17)      Mv Bdry Loss:  tensor(774.1667)
Iteration: 13400      Total Loss: tensor(1468630.1250)
IC Loss:  tensor(0.0129)      BC Loss:  tensor(1.6610e-06)   NS PDE Loss:  tensor(49.2666)   NS Div Free
Loss:  tensor(8.1375e-18)      Mv Bdry Loss:  tensor(3586.5273)
Iteration: 13600      Total Loss: tensor(4566103.5000)
IC Loss:  tensor(0.0276)      BC Loss:  tensor(1.8344e-06)   NS PDE Loss:  tensor(81.8531)   NS Div Free
Loss:  tensor(2.1342e-19)      Mv Bdry Loss:  tensor(36107.1523)
Iteration: 13800      Total Loss: tensor(25055418.)
IC Loss:  tensor(0.2442)      BC Loss:  tensor(2.1173e-06)   NS PDE Loss:  tensor(81.0146)   NS Div Free
Loss:  tensor(3.0267e-18)      Mv Bdry Loss:  tensor(12801.5000)
Iteration: 14000      Total Loss: tensor(33740812.)
IC Loss:  tensor(0.3248)      BC Loss:  tensor(1.4799e-06)   NS PDE Loss:  tensor(84.8935)   NS Div Free
Loss:  tensor(5.6348e-19)      Mv Bdry Loss:  tensor(25220.2305)
Iteration: 14200      Total Loss: tensor(2550053.5000)
IC Loss:  tensor(0.0204)      BC Loss:  tensor(0.0003)      NS PDE Loss:  tensor(78.6230)   NS Div Free
Loss:  tensor(3.1083e-20)      Mv Bdry Loss:  tensor(10228.9248)
Iteration: 14400      Total Loss: tensor(1794680.3750)
IC Loss:  tensor(0.0147)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(75.0707)   NS Div Free
Loss:  tensor(3.7374e-18)      Mv Bdry Loss:  tensor(6436.8291)
Iteration: 14600      Total Loss: tensor(2139686.5000)
IC Loss:  tensor(0.0197)      BC Loss:  tensor(0.0001)      NS PDE Loss:  tensor(69.9085)   NS Div Free
Loss:  tensor(4.2721e-18)      Mv Bdry Loss:  tensor(3449.5234)
Iteration: 14800      Total Loss: tensor(1332501.7500)
IC Loss:  tensor(0.0124)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(64.2173)   NS Div Free
Loss:  tensor(3.6778e-18)      Mv Bdry Loss:  tensor(1937.8101)
Iteration: 15000      Total Loss: tensor(1103848.2500)
IC Loss:  tensor(0.0098)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(65.6539)   NS Div Free
Loss:  tensor(1.4617e-17)      Mv Bdry Loss:  tensor(2557.1838)
Iteration: 15200      Total Loss: tensor(5.5022e+08)
IC Loss:  tensor(5.4834)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(81.1114)   NS Div Free
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Loss:  tensor(2.7496e-18)       Mv Bdry Loss:  tensor(37666.9336)
Iteration: 15400       Total Loss: tensor(5952361.5000)
IC Loss:  tensor(0.0566)        BC Loss:  tensor(0.0003)        NS PDE Loss:  tensor(74.4729)   NS Div Free
Loss:  tensor(1.4676e-17)       Mv Bdry Loss:  tensor(5870.0977)
Iteration: 15600       Total Loss: tensor(2662683.7500)
IC Loss:  tensor(0.0244)        BC Loss:  tensor(0.0001)        NS PDE Loss:  tensor(68.3827)   NS Div Free
Loss:  tensor(3.3997e-18)       Mv Bdry Loss:  tensor(4359.6470)
Iteration: 15800       Total Loss: tensor(1.1259e+08)
IC Loss:  tensor(1.1251)        BC Loss:  tensor(0.0036)        NS PDE Loss:  tensor(54.9061)   NS Div Free
Loss:  tensor(3.4237e-18)       Mv Bdry Loss:  tensor(1583.7457)
Iteration: 16000       Total Loss: tensor(1507741.6250)
IC Loss:  tensor(0.0145)        BC Loss:  tensor(7.5414e-06)    NS PDE Loss:  tensor(54.1304)   NS Div Free
Loss:  tensor(6.4242e-19)       Mv Bdry Loss:  tensor(1188.5125)
Iteration: 16200       Total Loss: tensor(1157396.1250)
IC Loss:  tensor(0.0093)        BC Loss:  tensor(8.7030e-05)    NS PDE Loss:  tensor(58.6577)   NS Div Free
Loss:  tensor(4.2228e-20)       Mv Bdry Loss:  tensor(4566.3027)
Iteration: 16400       Total Loss: tensor(1059270.6250)
IC Loss:  tensor(0.0099)        BC Loss:  tensor(5.5976e-07)    NS PDE Loss:  tensor(69.5036)   NS Div Free
Loss:  tensor(8.9144e-20)       Mv Bdry Loss:  tensor(1346.9384)
Iteration: 16600       Total Loss: tensor(705108.6875)
IC Loss:  tensor(0.0069)        BC Loss:  tensor(3.9055e-07)    NS PDE Loss:  tensor(57.7745)   NS Div Free
Loss:  tensor(1.7395e-19)       Mv Bdry Loss:  tensor(273.8073)
Iteration: 16800       Total Loss: tensor(1030817.8125)
IC Loss:  tensor(0.0102)        BC Loss:  tensor(3.9322e-07)    NS PDE Loss:  tensor(55.3785)   NS Div Free
Loss:  tensor(3.5471e-19)       Mv Bdry Loss:  tensor(305.3780)
Iteration: 17000       Total Loss: tensor(715718.1250)
IC Loss:  tensor(0.0071)        BC Loss:  tensor(4.2031e-07)    NS PDE Loss:  tensor(43.1998)   NS Div Free
Loss:  tensor(1.5100e-18)       Mv Bdry Loss:  tensor(198.7138)
Iteration: 17200       Total Loss: tensor(2.5146e+08)
IC Loss:  tensor(2.5120)        BC Loss:  tensor(4.8167e-07)    NS PDE Loss:  tensor(37.0009)   NS Div Free
Loss:  tensor(2.6966e-19)       Mv Bdry Loss:  tensor(5167.1323)
Iteration: 17400       Total Loss: tensor(33036962.)
IC Loss:  tensor(0.3231)        BC Loss:  tensor(7.0136e-07)    NS PDE Loss:  tensor(51.3556)   NS Div Free
Loss:  tensor(1.4523e-19)       Mv Bdry Loss:  tensor(14542.3672)
Iteration: 17600       Total Loss: tensor(4755909.5000)
IC Loss:  tensor(0.0449)        BC Loss:  tensor(7.9855e-07)    NS PDE Loss:  tensor(43.6068)   NS Div Free
Loss:  tensor(7.4881e-19)       Mv Bdry Loss:  tensor(5284.9443)
Iteration: 17800       Total Loss: tensor(3543672.5000)
IC Loss:  tensor(0.0327)        BC Loss:  tensor(8.2128e-07)    NS PDE Loss:  tensor(65.0311)   NS Div Free
Loss:  tensor(1.1319e-18)       Mv Bdry Loss:  tensor(5451.7900)
Iteration: 18000       Total Loss: tensor(1819080.1250)
IC Loss:  tensor(0.0174)        BC Loss:  tensor(1.0686e-06)    NS PDE Loss:  tensor(55.6132)   NS Div Free
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Loss:  tensor(2.5515e-19)      Mv Bdry Loss:  tensor(1642.9845)
Iteration: 18200     Total Loss: tensor(5616077.5000)
IC Loss:  tensor(0.0533)       BC Loss:  tensor(9.3206e-07)    NS PDE Loss:  tensor(64.8261)   NS Div Free
Loss:  tensor(3.0780e-18)      Mv Bdry Loss:  tensor(5684.0244)
Iteration: 18400     Total Loss: tensor(55386664.)
IC Loss:  tensor(0.5516)       BC Loss:  tensor(1.4122e-06)    NS PDE Loss:  tensor(70.0645)   NS Div Free
Loss:  tensor(8.8844e-20)      Mv Bdry Loss:  tensor(4514.0742)
Iteration: 18600     Total Loss: tensor(67065932.)
IC Loss:  tensor(0.6675)       BC Loss:  tensor(7.7748e-07)    NS PDE Loss:  tensor(53.6481)   NS Div Free
Loss:  tensor(4.3743e-19)      Mv Bdry Loss:  tensor(6244.8887)
Iteration: 18800     Total Loss: tensor(77025368.)
IC Loss:  tensor(0.7660)       BC Loss:  tensor(1.1329e-06)    NS PDE Loss:  tensor(68.8507)   NS Div Free
Loss:  tensor(2.4070e-19)      Mv Bdry Loss:  tensor(8519.5742)
Iteration: 19000     Total Loss: tensor(2976711.2500)
IC Loss:  tensor(0.0277)       BC Loss:  tensor(4.9398e-07)    NS PDE Loss:  tensor(62.7527)   NS Div Free
Loss:  tensor(5.4610e-20)      Mv Bdry Loss:  tensor(4204.9443)
Iteration: 19200     Total Loss: tensor(65317580.)
IC Loss:  tensor(0.6470)       BC Loss:  tensor(9.0569e-07)    NS PDE Loss:  tensor(75.8941)   NS Div Free
Loss:  tensor(1.1369e-19)      Mv Bdry Loss:  tensor(12330.6113)
Iteration: 19400     Total Loss: tensor(2599941.7500)
IC Loss:  tensor(0.0234)       BC Loss:  tensor(6.2581e-07)    NS PDE Loss:  tensor(68.6848)   NS Div Free
Loss:  tensor(8.2078e-20)      Mv Bdry Loss:  tensor(5162.1084)
Iteration: 19600     Total Loss: tensor(1900383.6250)
IC Loss:  tensor(0.0176)       BC Loss:  tensor(7.0723e-07)    NS PDE Loss:  tensor(59.4134)   NS Div Free
Loss:  tensor(1.1992e-18)      Mv Bdry Loss:  tensor(2718.8445)
Iteration: 19800     Total Loss: tensor(2381371.5000)
IC Loss:  tensor(0.0215)       BC Loss:  tensor(6.1704e-07)    NS PDE Loss:  tensor(56.9062)   NS Div Free
Loss:  tensor(3.7996e-20)      Mv Bdry Loss:  tensor(4551.7393)
Iteration: 20000     Total Loss: tensor(1573977.1250)
IC Loss:  tensor(0.0150)       BC Loss:  tensor(0.0001)        NS PDE Loss:  tensor(45.7261)   NS Div Free
Loss:  tensor(2.0767e-19)      Mv Bdry Loss:  tensor(1397.3984)
Current Final Time: 0.2 Current Learning Rate:  0.005
Iteration: 200  Total Loss: tensor(1417109.1250)
IC Loss:  tensor(0.0136)       BC Loss:  tensor(0.0005)        NS PDE Loss:  tensor(50.2065)   NS Div Free
Loss:  tensor(6.7441e-16)      Mv Bdry Loss:  tensor(1197.0533)
Iteration: 400  Total Loss: tensor(12915482.)
IC Loss:  tensor(0.1167)       BC Loss:  tensor(4.4988e-05)    NS PDE Loss:  tensor(45.7543)   NS Div Free
Loss:  tensor(7.7780e-17)      Mv Bdry Loss:  tensor(24931.7188)
Iteration: 600  Total Loss: tensor(5877878.)
IC Loss:  tensor(0.0584)       BC Loss:  tensor(3.2915e-05)    NS PDE Loss:  tensor(40.9527)   NS Div Free
Loss:  tensor(2.6421e-17)      Mv Bdry Loss:  tensor(700.3841)
Iteration: 800  Total Loss: tensor(94283504.)
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IC Loss:  tensor(0.9394)        BC Loss:  tensor(0.0007)        NS PDE Loss:  tensor(64.4610)   NS Div Free
Loss:  tensor(9.4050e-17)       Mv Bdry Loss:  tensor(6851.3418)
Iteration: 1000        Total Loss: tensor(17643718.)
IC Loss:  tensor(0.1748)        BC Loss:  tensor(4.5287e-05)    NS PDE Loss:  tensor(67.7036)   NS Div Free
Loss:  tensor(2.3921e-17)       Mv Bdry Loss:  tensor(3326.7383)
Iteration: 1200        Total Loss: tensor(56863992.)
IC Loss:  tensor(0.5636)        BC Loss:  tensor(6.2565e-05)    NS PDE Loss:  tensor(77.2418)   NS Div Free
Loss:  tensor(1.2544e-18)       Mv Bdry Loss:  tensor(10027.6523)
Iteration: 1400        Total Loss: tensor(1895397.6250)
IC Loss:  tensor(0.0175)        BC Loss:  tensor(4.6339e-05)    NS PDE Loss:  tensor(62.9935)   NS Div Free
Loss:  tensor(4.7434e-17)       Mv Bdry Loss:  tensor(2826.4370)
Iteration: 1600        Total Loss: tensor(1454475.6250)
IC Loss:  tensor(0.0141)        BC Loss:  tensor(4.6323e-05)    NS PDE Loss:  tensor(50.0507)   NS Div Free
Loss:  tensor(1.2133e-16)       Mv Bdry Loss:  tensor(961.4373)
Iteration: 1800        Total Loss: tensor(88149288.)
IC Loss:  tensor(0.8786)        BC Loss:  tensor(4.5025e-05)    NS PDE Loss:  tensor(61.1344)   NS Div Free
Loss:  tensor(3.7361e-18)       Mv Bdry Loss:  tensor(5739.6841)
Iteration: 2000        Total Loss: tensor(4731913.)
IC Loss:  tensor(0.0394)        BC Loss:  tensor(4.0509e-05)    NS PDE Loss:  tensor(33.9844)   NS Div Free
Loss:  tensor(4.2908e-16)       Mv Bdry Loss:  tensor(15922.7422)
Iteration: 2200        Total Loss: tensor(1485791.6250)
IC Loss:  tensor(0.0145)        BC Loss:  tensor(3.4981e-05)    NS PDE Loss:  tensor(35.9095)   NS Div Free
Loss:  tensor(1.0147e-16)       Mv Bdry Loss:  tensor(707.7008)
Iteration: 2400        Total Loss: tensor(1.0146e+08)
IC Loss:  tensor(1.0106)        BC Loss:  tensor(2.6980e-05)    NS PDE Loss:  tensor(0.4675)    NS Div Free
Loss:  tensor(4.6539e-15)       Mv Bdry Loss:  tensor(8107.0181)
Iteration: 2600        Total Loss: tensor(4950722.5000)
IC Loss:  tensor(0.0244)        BC Loss:  tensor(2.9104e-05)    NS PDE Loss:  tensor(38.2902)   NS Div Free
Loss:  tensor(8.8801e-17)       Mv Bdry Loss:  tensor(50124.8789)
Iteration: 2800        Total Loss: tensor(27465474.)
IC Loss:  tensor(0.1013)        BC Loss:  tensor(3.4899e-05)    NS PDE Loss:  tensor(74.4739)   NS Div Free
Loss:  tensor(6.1358e-19)       Mv Bdry Loss:  tensor(346752.5625)
Iteration: 3000        Total Loss: tensor(3000416.)
IC Loss:  tensor(0.0245)        BC Loss:  tensor(3.2512e-05)    NS PDE Loss:  tensor(81.3257)   NS Div Free
Loss:  tensor(1.5002e-17)       Mv Bdry Loss:  tensor(11068.7002)
Iteration: 3200        Total Loss: tensor(50392940.)
IC Loss:  tensor(0.5011)        BC Loss:  tensor(1.0614e-05)    NS PDE Loss:  tensor(18.9270)   NS Div Free
Loss:  tensor(2.7433e-18)       Mv Bdry Loss:  tensor(5733.2871)
Iteration: 3400        Total Loss: tensor(14738220.)
IC Loss:  tensor(0.1458)        BC Loss:  tensor(8.7678e-06)    NS PDE Loss:  tensor(39.3781)   NS Div Free
Loss:  tensor(1.4859e-17)       Mv Bdry Loss:  tensor(3232.8647)
Iteration: 3600        Total Loss: tensor(1876055.)
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IC Loss: tensor(0.0185)       BC Loss: tensor(1.0403e-05)    NS PDE Loss: tensor(43.2531)    NS Div Free
Loss: tensor(2.6106e-20)      Mv Bdry Loss: tensor(594.3196)
Iteration: 3800       Total Loss: tensor(2128389.7500)
IC Loss: tensor(0.0208)       BC Loss: tensor(6.4950e-06)    NS PDE Loss: tensor(0.3512)    NS Div Free
Loss: tensor(1.1833e-17)      Mv Bdry Loss: tensor(891.6190)
Iteration: 4000       Total Loss: tensor(32704814.)
IC Loss: tensor(0.3248)       BC Loss: tensor(6.0663e-06)    NS PDE Loss: tensor(0.8951)    NS Div Free
Loss: tensor(9.3669e-17)      Mv Bdry Loss: tensor(4481.2646)
Iteration: 4200       Total Loss: tensor(1.4545e+08)
IC Loss: tensor(1.4531)       BC Loss: tensor(6.3604e-06)    NS PDE Loss: tensor(56.5016)    NS Div Free
Loss: tensor(3.8499e-18)      Mv Bdry Loss: tensor(2752.0022)
Iteration: 4400       Total Loss: tensor(28538798.)
IC Loss: tensor(0.2846)       BC Loss: tensor(4.4866e-06)    NS PDE Loss: tensor(35.7060)    NS Div Free
Loss: tensor(3.5243e-19)      Mv Bdry Loss: tensor(1656.4429)
Iteration: 4600       Total Loss: tensor(2403260.2500)
IC Loss: tensor(0.0236)       BC Loss: tensor(1.4473e-06)    NS PDE Loss: tensor(1.1066)    NS Div Free
Loss: tensor(1.0258e-17)      Mv Bdry Loss: tensor(920.1927)
Iteration: 4800       Total Loss: tensor(2519782.)
IC Loss: tensor(0.0246)       BC Loss: tensor(1.9857e-06)    NS PDE Loss: tensor(58.3063)    NS Div Free
Loss: tensor(5.1989e-18)      Mv Bdry Loss: tensor(1133.4865)
Iteration: 5000       Total Loss: tensor(1889881.5000)
IC Loss: tensor(0.0181)       BC Loss: tensor(4.7753e-05)    NS PDE Loss: tensor(65.2485)    NS Div Free
Loss: tensor(1.5372e-18)      Mv Bdry Loss: tensor(1625.1892)
Iteration: 5200       Total Loss: tensor(1283519.8750)
IC Loss: tensor(0.0124)       BC Loss: tensor(2.7413e-05)    NS PDE Loss: tensor(55.0894)    NS Div Free
Loss: tensor(1.1767e-19)      Mv Bdry Loss: tensor(960.7963)
Iteration: 5400       Total Loss: tensor(1168171.2500)
IC Loss: tensor(0.0113)       BC Loss: tensor(9.0697e-06)    NS PDE Loss: tensor(46.8199)    NS Div Free
Loss: tensor(8.3003e-20)      Mv Bdry Loss: tensor(672.6701)
Iteration: 5600       Total Loss: tensor(1.4866e+08)
IC Loss: tensor(1.4861)       BC Loss: tensor(8.5813e-06)    NS PDE Loss: tensor(41.1315)    NS Div Free
Loss: tensor(8.5431e-20)      Mv Bdry Loss: tensor(900.9266)
Iteration: 5800       Total Loss: tensor(1611827.5000)
IC Loss: tensor(0.0149)       BC Loss: tensor(3.4797e-06)    NS PDE Loss: tensor(60.8298)    NS Div Free
Loss: tensor(2.4198e-18)      Mv Bdry Loss: tensor(2414.4919)
Iteration: 6000       Total Loss: tensor(2317609.)
IC Loss: tensor(0.0206)       BC Loss: tensor(2.7328e-06)    NS PDE Loss: tensor(70.3989)    NS Div Free
Loss: tensor(5.0621e-19)      Mv Bdry Loss: tensor(5123.9824)
Iteration: 6200       Total Loss: tensor(992042.4375)
IC Loss: tensor(0.0098)       BC Loss: tensor(2.1779e-05)    NS PDE Loss: tensor(9.5736)    NS Div Free
Loss: tensor(3.1012e-19)      Mv Bdry Loss: tensor(149.0725)
Iteration: 6400       Total Loss: tensor(760948.4375)
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IC Loss: tensor(0.0075)   BC Loss: tensor(4.8694e-07)   NS PDE Loss: tensor(2.2007)   NS Div Free
Loss: tensor(5.5132e-19)   Mv Bdry Loss: tensor(171.4915)
Iteration: 6600   Total Loss: tensor(884403.2500)
IC Loss: tensor(0.0087)   BC Loss: tensor(4.4129e-07)   NS PDE Loss: tensor(0.2694)   NS Div Free
Loss: tensor(2.8538e-19)   Mv Bdry Loss: tensor(380.4866)
Iteration: 6800   Total Loss: tensor(633117.4375)
IC Loss: tensor(0.0062)   BC Loss: tensor(3.6836e-07)   NS PDE Loss: tensor(0.4963)   NS Div Free
Loss: tensor(1.5359e-18)   Mv Bdry Loss: tensor(199.2004)
Iteration: 7000   Total Loss: tensor(767606.9375)
IC Loss: tensor(0.0075)   BC Loss: tensor(4.0521e-07)   NS PDE Loss: tensor(0.7347)   NS Div Free
Loss: tensor(1.3097e-19)   Mv Bdry Loss: tensor(446.4690)
Iteration: 7200   Total Loss: tensor(3.8487e+08)
IC Loss: tensor(3.8391)   BC Loss: tensor(3.7991e-07)   NS PDE Loss: tensor(72.3079)   NS Div Free
Loss: tensor(2.9211e-20)   Mv Bdry Loss: tensor(19179.1133)
Iteration: 7400   Total Loss: tensor(1072953.)
IC Loss: tensor(0.0104)   BC Loss: tensor(4.2977e-07)   NS PDE Loss: tensor(3.7201)   NS Div Free
Loss: tensor(7.8226e-19)   Mv Bdry Loss: tensor(606.2379)
Iteration: 7600   Total Loss: tensor(1163405.8750)
IC Loss: tensor(0.0115)   BC Loss: tensor(3.5511e-07)   NS PDE Loss: tensor(0.0008)   NS Div Free
Loss: tensor(3.9458e-19)   Mv Bdry Loss: tensor(210.1556)
Iteration: 7800   Total Loss: tensor(958223.7500)
IC Loss: tensor(0.0094)   BC Loss: tensor(3.9544e-07)   NS PDE Loss: tensor(0.0005)   NS Div Free
Loss: tensor(3.9658e-19)   Mv Bdry Loss: tensor(414.6864)
Iteration: 8000   Total Loss: tensor(675156.6875)
IC Loss: tensor(0.0066)   BC Loss: tensor(3.9895e-07)   NS PDE Loss: tensor(0.0001)   NS Div Free
Loss: tensor(1.4196e-18)   Mv Bdry Loss: tensor(312.1986)
Iteration: 8200   Total Loss: tensor(668116.3125)
IC Loss: tensor(0.0066)   BC Loss: tensor(4.1865e-06)   NS PDE Loss: tensor(5.3806e-05)   NS
Div Free Loss: tensor(1.8253e-18)   Mv Bdry Loss: tensor(215.0537)
Iteration: 8400   Total Loss: tensor(445375.4688)
IC Loss: tensor(0.0044)   BC Loss: tensor(9.2949e-05)   NS PDE Loss: tensor(3.5186e-05)   NS
Div Free Loss: tensor(6.4283e-19)   Mv Bdry Loss: tensor(180.2700)
Iteration: 8600   Total Loss: tensor(445427.6562)
IC Loss: tensor(0.0044)   BC Loss: tensor(6.5494e-08)   NS PDE Loss: tensor(1.2961e-05)   NS
Div Free Loss: tensor(6.0941e-18)   Mv Bdry Loss: tensor(200.4339)
Iteration: 8800   Total Loss: tensor(6243912.5000)
IC Loss: tensor(0.0621)   BC Loss: tensor(6.6803e-08)   NS PDE Loss: tensor(2.7763)   NS Div Free
Loss: tensor(3.9818e-19)   Mv Bdry Loss: tensor(614.9935)
Iteration: 9000   Total Loss: tensor(841943.4375)
IC Loss: tensor(0.0081)   BC Loss: tensor(7.2059e-08)   NS PDE Loss: tensor(1.1117)   NS Div Free
Loss: tensor(2.4972e-18)   Mv Bdry Loss: tensor(616.5259)
Iteration: 9200   Total Loss: tensor(2184514.2500)

IC Loss: tensor(0.0067)   BC Loss: tensor(7.8145e-08)   NS PDE Loss: tensor(48.3564)   NS Div Free
Loss: tensor(4.4949e-19)   Mv Bdry Loss: tensor(30342.2754)
Iteration: 9400   Total Loss: tensor(581712.3125)
IC Loss: tensor(0.0052)   BC Loss: tensor(6.8434e-08)   NS PDE Loss: tensor(7.9872)   NS Div Free
Loss: tensor(2.0981e-19)   Mv Bdry Loss: tensor(1198.6741)
Iteration: 9600   Total Loss: tensor(552954.8125)
IC Loss: tensor(0.0051)   BC Loss: tensor(5.8833e-08)   NS PDE Loss: tensor(2.6296)   NS Div Free
Loss: tensor(1.2022e-19)   Mv Bdry Loss: tensor(834.8442)
Iteration: 9800   Total Loss: tensor(594260.)
IC Loss: tensor(0.0056)   BC Loss: tensor(6.1784e-08)   NS PDE Loss: tensor(0.6949)   NS Div Free
Loss: tensor(1.1685e-18)   Mv Bdry Loss: tensor(768.5493)
Iteration: 10000   Total Loss: tensor(443181.0625)
IC Loss: tensor(0.0042)   BC Loss: tensor(6.7333e-08)   NS PDE Loss: tensor(6.1526)   NS Div Free
Loss: tensor(3.2957e-20)   Mv Bdry Loss: tensor(425.3767)
Iteration: 10200   Total Loss: tensor(467979.5625)
IC Loss: tensor(0.0046)   BC Loss: tensor(3.9797e-05)   NS PDE Loss: tensor(2.2093)   NS Div Free
Loss: tensor(8.8440e-18)   Mv Bdry Loss: tensor(239.6470)
Iteration: 10400   Total Loss: tensor(493511.9375)
IC Loss: tensor(0.0048)   BC Loss: tensor(0.0025)   NS PDE Loss: tensor(4.2448)   NS Div Free
Loss: tensor(2.2422e-19)   Mv Bdry Loss: tensor(187.5565)
Iteration: 10600   Total Loss: tensor(405390.4062)
IC Loss: tensor(0.0036)   BC Loss: tensor(2.8901e-07)   NS PDE Loss: tensor(0.3409)   NS Div Free
Loss: tensor(2.0610e-17)   Mv Bdry Loss: tensor(822.0687)
Iteration: 10800   Total Loss: tensor(1744261.2500)
IC Loss: tensor(0.0166)   BC Loss: tensor(1.5586e-07)   NS PDE Loss: tensor(30.6690)   NS Div Free
Loss: tensor(3.2897e-19)   Mv Bdry Loss: tensor(1597.6802)
Iteration: 11000   Total Loss: tensor(5325260.5000)
IC Loss: tensor(0.0510)   BC Loss: tensor(1.1107e-07)   NS PDE Loss: tensor(66.3052)   NS Div Free
Loss: tensor(1.6638e-19)   Mv Bdry Loss: tensor(4523.2183)
Iteration: 11200   Total Loss: tensor(718172.9375)
IC Loss: tensor(0.0060)   BC Loss: tensor(3.3961e-07)   NS PDE Loss: tensor(11.5243)   NS Div Free
Loss: tensor(2.5703e-17)   Mv Bdry Loss: tensor(2401.1792)
Iteration: 11400   Total Loss: tensor(548435.5000)
IC Loss: tensor(0.0049)   BC Loss: tensor(4.4343e-07)   NS PDE Loss: tensor(0.4193)   NS Div Free
Loss: tensor(8.9042e-17)   Mv Bdry Loss: tensor(1224.8792)
Iteration: 11600   Total Loss: tensor(563968.1875)
IC Loss: tensor(0.0054)   BC Loss: tensor(4.0266e-07)   NS PDE Loss: tensor(0.2112)   NS Div Free
Loss: tensor(1.6261e-16)   Mv Bdry Loss: tensor(406.5350)
Iteration: 11800   Total Loss: tensor(586466.6250)
IC Loss: tensor(0.0055)   BC Loss: tensor(1.7697e-05)   NS PDE Loss: tensor(0.0081)   NS Div Free
Loss: tensor(3.6243e-17)   Mv Bdry Loss: tensor(673.1106)
Iteration: 12000   Total Loss: tensor(4.4387e+08)

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IC Loss:  tensor(4.4384)       BC Loss:  tensor(2.1083e-07)   NS PDE Loss:  tensor(0.0482)   NS Div Free
Loss:  tensor(3.0109e-18)      Mv Bdry Loss:  tensor(503.1247)
Iteration: 12200       Total Loss: tensor(350535.1875)
IC Loss:  tensor(0.0033)       BC Loss:  tensor(4.2190e-07)   NS PDE Loss:  tensor(0.0006)   NS Div Free
Loss:  tensor(2.2343e-18)      Mv Bdry Loss:  tensor(443.8262)
Iteration: 12400       Total Loss: tensor(489044.3750)
IC Loss:  tensor(0.0039)       BC Loss:  tensor(5.7672e-07)   NS PDE Loss:  tensor(0.0064)   NS Div Free
Loss:  tensor(1.8155e-17)      Mv Bdry Loss:  tensor(1929.0441)
Iteration: 12600       Total Loss: tensor(531297.8125)
IC Loss:  tensor(0.0049)       BC Loss:  tensor(4.5829e-07)   NS PDE Loss:  tensor(0.5796)   NS Div Free
Loss:  tensor(4.8813e-17)      Mv Bdry Loss:  tensor(764.9240)
Iteration: 12800       Total Loss: tensor(2.7667e+08)
IC Loss:  tensor(2.7632)       BC Loss:  tensor(3.2967e-07)   NS PDE Loss:  tensor(75.9872)  NS Div Free
Loss:  tensor(3.7768e-19)      Mv Bdry Loss:  tensor(7060.5635)
Iteration: 13000       Total Loss: tensor(412048.7812)
IC Loss:  tensor(0.0039)       BC Loss:  tensor(6.3477e-07)   NS PDE Loss:  tensor(4.0072e-05)       NS
Div Free Loss:  tensor(2.9741e-17)    Mv Bdry Loss:  tensor(488.2208)
Iteration: 13200       Total Loss: tensor(454232.4375)
IC Loss:  tensor(0.0044)       BC Loss:  tensor(6.4781e-07)   NS PDE Loss:  tensor(2.2776e-05)       NS
Div Free Loss:  tensor(2.8822e-17)    Mv Bdry Loss:  tensor(374.1517)
Iteration: 13400       Total Loss: tensor(345665.5625)
IC Loss:  tensor(0.0033)       BC Loss:  tensor(7.1077e-07)   NS PDE Loss:  tensor(4.7984e-06)       NS
Div Free Loss:  tensor(3.5203e-18)    Mv Bdry Loss:  tensor(295.4183)
Iteration: 13600       Total Loss: tensor(5.7063e+08)
IC Loss:  tensor(5.6972)       BC Loss:  tensor(8.6128e-07)   NS PDE Loss:  tensor(84.3074)  NS Div Free
Loss:  tensor(2.2556e-19)      Mv Bdry Loss:  tensor(18077.7500)
Iteration: 13800       Total Loss: tensor(84719888.)
IC Loss:  tensor(0.8429)       BC Loss:  tensor(5.2943e-07)   NS PDE Loss:  tensor(44.4812)  NS Div Free
Loss:  tensor(3.2679e-19)      Mv Bdry Loss:  tensor(8584.1270)
Iteration: 14000       Total Loss: tensor(294165.4062)
IC Loss:  tensor(0.0029)       BC Loss:  tensor(8.2972e-06)   NS PDE Loss:  tensor(0.0082)   NS Div Free
Loss:  tensor(3.6400e-18)      Mv Bdry Loss:  tensor(156.6224)
Iteration: 14200       Total Loss: tensor(1.9858e+08)
IC Loss:  tensor(1.9854)       BC Loss:  tensor(0.0001)       NS PDE Loss:  tensor(4.1870)   NS Div Free
Loss:  tensor(9.6573e-17)      Mv Bdry Loss:  tensor(791.1774)
Iteration: 14400       Total Loss: tensor(3.9095e+08)
IC Loss:  tensor(3.9071)       BC Loss:  tensor(1.8853e-06)   NS PDE Loss:  tensor(42.7485)  NS Div Free
Loss:  tensor(1.5204e-18)      Mv Bdry Loss:  tensor(4968.2930)
Iteration: 14600       Total Loss: tensor(1182960.7500)
IC Loss:  tensor(0.0113)       BC Loss:  tensor(1.5887e-06)   NS PDE Loss:  tensor(0.0352)   NS Div Free
Loss:  tensor(1.8412e-15)      Mv Bdry Loss:  tensor(1107.6832)
Iteration: 14800       Total Loss: tensor(645437.4375)
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IC Loss:  tensor(0.0064)         BC Loss:  tensor(1.5563e-06)    NS PDE Loss:  tensor(4.6540e-05)        NS
Div Free Loss:  tensor(3.9822e-16)      Mv Bdry Loss:  tensor(90.7372)
Iteration: 15000      Total Loss: tensor(371541.9062)
IC Loss:  tensor(0.0037)         BC Loss:  tensor(1.4553e-06)    NS PDE Loss:  tensor(5.8794e-06)        NS
Div Free Loss:  tensor(1.7510e-16)      Mv Bdry Loss:  tensor(97.5358)
Iteration: 15200      Total Loss: tensor(333608.5312)
IC Loss:  tensor(0.0032)         BC Loss:  tensor(1.3289e-06)    NS PDE Loss:  tensor(2.7496e-06)        NS
Div Free Loss:  tensor(1.0303e-16)      Mv Bdry Loss:  tensor(212.2125)
Iteration: 15400      Total Loss: tensor(720185.1250)
IC Loss:  tensor(0.0071)         BC Loss:  tensor(1.2331e-06)    NS PDE Loss:  tensor(1.5657e-06)        NS
Div Free Loss:  tensor(4.0468e-17)      Mv Bdry Loss:  tensor(259.3633)
Iteration: 15600      Total Loss: tensor(310733.8750)
IC Loss:  tensor(0.0030)         BC Loss:  tensor(1.2773e-06)    NS PDE Loss:  tensor(6.6067e-07)        NS
Div Free Loss:  tensor(3.6215e-17)      Mv Bdry Loss:  tensor(158.8244)
Iteration: 15800      Total Loss: tensor(264516.4688)
IC Loss:  tensor(0.0026)         BC Loss:  tensor(1.2497e-06)    NS PDE Loss:  tensor(4.8272e-07)        NS
Div Free Loss:  tensor(2.1174e-17)      Mv Bdry Loss:  tensor(152.2771)
Iteration: 16000      Total Loss: tensor(2474474.7500)
IC Loss:  tensor(0.0225)         BC Loss:  tensor(1.1903e-06)    NS PDE Loss:  tensor(9.3771e-06)        NS
Div Free Loss:  tensor(1.0382e-17)      Mv Bdry Loss:  tensor(4397.3813)
Iteration: 16200      Total Loss: tensor(3292348.7500)
IC Loss:  tensor(0.0325)         BC Loss:  tensor(1.2102e-06)    NS PDE Loss:  tensor(0.0006)    NS Div Free
Loss:  tensor(2.5977e-16)      Mv Bdry Loss:  tensor(789.5102)
Iteration: 16400      Total Loss: tensor(44560252.)
IC Loss:  tensor(0.4384)         BC Loss:  tensor(1.1020e-06)    NS PDE Loss:  tensor(2.2664)    NS Div Free
Loss:  tensor(1.4672e-16)      Mv Bdry Loss:  tensor(14482.7031)
Iteration: 16600      Total Loss: tensor(1605984.8750)
IC Loss:  tensor(0.0148)         BC Loss:  tensor(1.1110e-06)    NS PDE Loss:  tensor(0.3742)    NS Div Free
Loss:  tensor(3.3588e-17)      Mv Bdry Loss:  tensor(2588.3774)
Iteration: 16800      Total Loss: tensor(1250858.)
IC Loss:  tensor(0.0111)         BC Loss:  tensor(1.1264e-06)    NS PDE Loss:  tensor(0.0428)    NS Div Free
Loss:  tensor(1.0863e-18)      Mv Bdry Loss:  tensor(2792.2883)
Iteration: 17000      Total Loss: tensor(2408203.)
IC Loss:  tensor(0.0237)         BC Loss:  tensor(1.1689e-06)    NS PDE Loss:  tensor(1.5276)    NS Div Free
Loss:  tensor(1.0065e-17)      Mv Bdry Loss:  tensor(800.0748)
Iteration: 17200      Total Loss: tensor(1.0887e+08)
IC Loss:  tensor(1.0702)         BC Loss:  tensor(1.0595e-06)    NS PDE Loss:  tensor(47.8164)    NS Div Free
Loss:  tensor(1.5284e-19)      Mv Bdry Loss:  tensor(37091.6562)
Iteration: 17400      Total Loss: tensor(901617.6250)
IC Loss:  tensor(0.0082)         BC Loss:  tensor(9.5984e-07)    NS PDE Loss:  tensor(0.0056)    NS Div Free
Loss:  tensor(3.3696e-17)      Mv Bdry Loss:  tensor(1723.8809)
Iteration: 17600      Total Loss: tensor(869143.1250)
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IC Loss: tensor(0.0079)   BC Loss: tensor(8.8148e-07)   NS PDE Loss: tensor(6.6356e-06)   NS
Div Free Loss: tensor(3.3378e-16)   Mv Bdry Loss: tensor(1564.0645)
Iteration: 17800   Total Loss: tensor(692953.3125)
IC Loss: tensor(0.0066)   BC Loss: tensor(8.8219e-07)   NS PDE Loss: tensor(0.0004)   NS Div Free
Loss: tensor(2.8240e-16)   Mv Bdry Loss: tensor(678.4219)
Iteration: 18000   Total Loss: tensor(744882.9375)
IC Loss: tensor(0.0072)   BC Loss: tensor(8.8405e-07)   NS PDE Loss: tensor(0.0045)   NS Div Free
Loss: tensor(3.5591e-17)   Mv Bdry Loss: tensor(483.5970)
Iteration: 18200   Total Loss: tensor(6358995.)
IC Loss: tensor(0.0627)   BC Loss: tensor(9.0430e-07)   NS PDE Loss: tensor(5.3654e-06)   NS
Div Free Loss: tensor(3.6675e-16)   Mv Bdry Loss: tensor(1794.1674)
Iteration: 18400   Total Loss: tensor(1254067.6250)
IC Loss: tensor(0.0121)   BC Loss: tensor(8.7047e-07)   NS PDE Loss: tensor(9.9853e-05)   NS
Div Free Loss: tensor(2.9104e-16)   Mv Bdry Loss: tensor(821.1902)
Iteration: 18600   Total Loss: tensor(1231586.5000)
IC Loss: tensor(0.0103)   BC Loss: tensor(8.8403e-07)   NS PDE Loss: tensor(0.0001)   NS Div Free
Loss: tensor(2.3165e-16)   Mv Bdry Loss: tensor(4022.4495)
Iteration: 18800   Total Loss: tensor(898638.7500)
IC Loss: tensor(0.0086)   BC Loss: tensor(6.3678e-05)   NS PDE Loss: tensor(4.4609e-05)   NS
Div Free Loss: tensor(2.5707e-16)   Mv Bdry Loss: tensor(789.9622)
Iteration: 19000   Total Loss: tensor(2.4043e+08)
IC Loss: tensor(2.4011)   BC Loss: tensor(8.6078e-07)   NS PDE Loss: tensor(23.7270)   NS Div Free
Loss: tensor(1.6049e-17)   Mv Bdry Loss: tensor(6521.0020)
Iteration: 19200   Total Loss: tensor(2372064.2500)
IC Loss: tensor(0.0147)   BC Loss: tensor(1.3072e-07)   NS PDE Loss: tensor(20.9575)   NS Div Free
Loss: tensor(8.6059e-18)   Mv Bdry Loss: tensor(17980.4297)
Iteration: 19400   Total Loss: tensor(1.2260e+08)
IC Loss: tensor(1.2131)   BC Loss: tensor(1.3223e-07)   NS PDE Loss: tensor(75.8774)   NS Div Free
Loss: tensor(4.5883e-19)   Mv Bdry Loss: tensor(25711.3633)
Iteration: 19600   Total Loss: tensor(953723.8125)
IC Loss: tensor(0.0091)   BC Loss: tensor(1.5765e-07)   NS PDE Loss: tensor(8.1330)   NS Div Free
Loss: tensor(2.9175e-16)   Mv Bdry Loss: tensor(783.6765)
Iteration: 19800   Total Loss: tensor(1042180.7500)
IC Loss: tensor(0.0103)   BC Loss: tensor(6.3287e-06)   NS PDE Loss: tensor(0.0161)   NS Div Free
Loss: tensor(1.3091e-16)   Mv Bdry Loss: tensor(273.6194)
Iteration: 20000   Total Loss: tensor(1706368.1250)
IC Loss: tensor(0.0142)   BC Loss: tensor(5.9641e-08)   NS PDE Loss: tensor(17.4843)   NS Div Free
Loss: tensor(7.6461e-19)   Mv Bdry Loss: tensor(5658.3179)
Current Final Time: 0.4 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(45743256.)
IC Loss: tensor(0.4564)   BC Loss: tensor(2.6883e-08)   NS PDE Loss: tensor(29.2681)   NS Div Free
Loss: tensor(8.4204e-16)   Mv Bdry Loss: tensor(2111.9702)

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Iteration: 400  Total Loss: tensor(65518020.)
IC Loss:  tensor(0.6523)      BC Loss:  tensor(2.7358e-08)   NS PDE Loss:  tensor(1.4944)    NS Div Free
Loss:  tensor(2.4150e-15)      Mv Bdry Loss:  tensor(5703.0513)
Iteration: 600  Total Loss: tensor(970457.3750)
IC Loss:  tensor(0.0092)      BC Loss:  tensor(3.1801e-08)   NS PDE Loss:  tensor(0.0960)    NS Div Free
Loss:  tensor(1.4739e-16)      Mv Bdry Loss:  tensor(957.0989)
Iteration: 800  Total Loss: tensor(1224417.2500)
IC Loss:  tensor(0.0114)      BC Loss:  tensor(2.8306e-08)   NS PDE Loss:  tensor(2.6988)    NS Div Free
Loss:  tensor(8.9317e-16)      Mv Bdry Loss:  tensor(1651.0123)
Iteration: 1000      Total Loss: tensor(811383.2500)
IC Loss:  tensor(0.0079)      BC Loss:  tensor(2.5005e-09)   NS PDE Loss:  tensor(11.4478)   NS Div Free
Loss:  tensor(1.7190e-13)      Mv Bdry Loss:  tensor(486.4594)
Iteration: 1200      Total Loss: tensor(661419.5000)
IC Loss:  tensor(0.0064)      BC Loss:  tensor(0.0026)      NS PDE Loss:  tensor(6.0944)    NS Div Free
Loss:  tensor(3.3500e-13)      Mv Bdry Loss:  tensor(350.9495)
Iteration: 1400      Total Loss: tensor(538119.0625)
IC Loss:  tensor(0.0052)      BC Loss:  tensor(0.0002)      NS PDE Loss:  tensor(3.4572)    NS Div Free
Loss:  tensor(4.9075e-13)      Mv Bdry Loss:  tensor(382.0962)
Iteration: 1600      Total Loss: tensor(4.1498e+08)
IC Loss:  tensor(4.1495)      BC Loss:  tensor(0.0583)      NS PDE Loss:  tensor(0.5082)    NS Div Free
Loss:  tensor(1.5937e-12)      Mv Bdry Loss:  tensor(668.1951)
Iteration: 1800      Total Loss: tensor(920600.5625)
IC Loss:  tensor(0.0092)      BC Loss:  tensor(2.2562e-06)   NS PDE Loss:  tensor(6.4234)    NS Div Free
Loss:  tensor(8.4749e-18)      Mv Bdry Loss:  tensor(110.2610)
Iteration: 2000      Total Loss: tensor(597716.1250)
IC Loss:  tensor(0.0059)      BC Loss:  tensor(9.2430e-07)   NS PDE Loss:  tensor(8.1810)    NS Div Free
Loss:  tensor(2.2656e-18)      Mv Bdry Loss:  tensor(172.3398)
Iteration: 2200      Total Loss: tensor(1.6681e+08)
IC Loss:  tensor(1.6678)      BC Loss:  tensor(6.4642e-07)   NS PDE Loss:  tensor(3.9039)    NS Div Free
Loss:  tensor(3.2901e-18)      Mv Bdry Loss:  tensor(562.3450)
Iteration: 2400      Total Loss: tensor(676867.6250)
IC Loss:  tensor(0.0067)      BC Loss:  tensor(5.3723e-07)   NS PDE Loss:  tensor(3.1921)    NS Div Free
Loss:  tensor(3.5611e-17)      Mv Bdry Loss:  tensor(160.0044)
Iteration: 2600      Total Loss: tensor(20490472.)
IC Loss:  tensor(0.2038)      BC Loss:  tensor(4.4228e-07)   NS PDE Loss:  tensor(45.2437)   NS Div Free
Loss:  tensor(2.5627e-19)      Mv Bdry Loss:  tensor(2164.5488)
Iteration: 2800      Total Loss: tensor(33774248.)
IC Loss:  tensor(0.2830)      BC Loss:  tensor(4.1384e-07)   NS PDE Loss:  tensor(3.0771)    NS Div Free
Loss:  tensor(8.7143e-18)      Mv Bdry Loss:  tensor(109453.1094)
Iteration: 3000      Total Loss: tensor(1.2130e+08)
IC Loss:  tensor(0.7598)      BC Loss:  tensor(3.8689e-07)   NS PDE Loss:  tensor(81.6218)   NS Div Free
Loss:  tensor(1.3859e-23)      Mv Bdry Loss:  tensor(906338.5625)
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Iteration: 3200        Total Loss: tensor(56404812.)
IC Loss:  tensor(0.4949)        BC Loss:  tensor(3.5151e-07)   NS PDE Loss:  tensor(90.9324)   NS Div Free
Loss:  tensor(2.4498e-23)        Mv Bdry Loss:  tensor(138228.0312)
Iteration: 3400        Total Loss: tensor(52980540.)
IC Loss:  tensor(0.4190)        BC Loss:  tensor(3.3205e-07)   NS PDE Loss:  tensor(87.3601)   NS Div Free
Loss:  tensor(2.5393e-23)        Mv Bdry Loss:  tensor(221509.1406)
Iteration: 3600        Total Loss: tensor(68404504.)
IC Loss:  tensor(0.5969)        BC Loss:  tensor(3.1149e-07)   NS PDE Loss:  tensor(87.3760)   NS Div Free
Loss:  tensor(1.1274e-22)        Mv Bdry Loss:  tensor(174382.5938)
Iteration: 3800        Total Loss: tensor(22591576.)
IC Loss:  tensor(0.1645)        BC Loss:  tensor(2.9202e-07)   NS PDE Loss:  tensor(90.7366)   NS Div Free
Loss:  tensor(1.2928e-21)        Mv Bdry Loss:  tensor(122791.4141)
Iteration: 4000        Total Loss: tensor(18521962.)
IC Loss:  tensor(0.1074)        BC Loss:  tensor(2.7253e-07)   NS PDE Loss:  tensor(89.4846)   NS Div Free
Loss:  tensor(2.2196e-21)        Mv Bdry Loss:  tensor(155594.6250)
Iteration: 4200        Total Loss: tensor(15496382.)
IC Loss:  tensor(0.1025)        BC Loss:  tensor(2.7773e-07)   NS PDE Loss:  tensor(91.0444)   NS Div Free
Loss:  tensor(1.2353e-23)        Mv Bdry Loss:  tensor(104828.8750)
Iteration: 4400        Total Loss: tensor(11270725.)
IC Loss:  tensor(0.1058)        BC Loss:  tensor(2.8782e-07)   NS PDE Loss:  tensor(83.4648)   NS Div Free
Loss:  tensor(8.7314e-24)        Mv Bdry Loss:  tensor(13797.0645)
Iteration: 4600        Total Loss: tensor(38962736.)
IC Loss:  tensor(0.3847)        BC Loss:  tensor(2.6256e-07)   NS PDE Loss:  tensor(74.6505)   NS Div Free
Loss:  tensor(4.3433e-22)        Mv Bdry Loss:  tensor(9785.8496)
Iteration: 4800        Total Loss: tensor(47903012.)
IC Loss:  tensor(0.4688)        BC Loss:  tensor(2.2232e-07)   NS PDE Loss:  tensor(83.7054)   NS Div Free
Loss:  tensor(3.4582e-21)        Mv Bdry Loss:  tensor(20442.9961)
Iteration: 5000        Total Loss: tensor(11958283.)
IC Loss:  tensor(0.1159)        BC Loss:  tensor(1.9948e-07)   NS PDE Loss:  tensor(50.9192)   NS Div Free
Loss:  tensor(3.8984e-21)        Mv Bdry Loss:  tensor(7390.8926)
Iteration: 5200        Total Loss: tensor(18180976.)
IC Loss:  tensor(0.1772)        BC Loss:  tensor(1.8579e-07)   NS PDE Loss:  tensor(67.0966)   NS Div Free
Loss:  tensor(4.0612e-21)        Mv Bdry Loss:  tensor(9170.1592)
Iteration: 5400        Total Loss: tensor(6655859.)
IC Loss:  tensor(0.0621)        BC Loss:  tensor(1.6623e-07)   NS PDE Loss:  tensor(63.2382)   NS Div Free
Loss:  tensor(1.9661e-20)        Mv Bdry Loss:  tensor(8829.4785)
Iteration: 5600        Total Loss: tensor(6149806.)
IC Loss:  tensor(0.0583)        BC Loss:  tensor(1.6231e-07)   NS PDE Loss:  tensor(1.0933)   NS Div Free
Loss:  tensor(1.5362e-21)        Mv Bdry Loss:  tensor(6318.7051)
Iteration: 5800        Total Loss: tensor(3141497.7500)
IC Loss:  tensor(0.0307)        BC Loss:  tensor(1.1658e-07)   NS PDE Loss:  tensor(44.9898)   NS Div Free
Loss:  tensor(4.5407e-21)        Mv Bdry Loss:  tensor(1400.2581)
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Iteration: 6000        Total Loss: tensor(3196085.5000)
IC Loss:  tensor(0.0315)       BC Loss:  tensor(1.0309e-07)   NS PDE Loss:  tensor(19.9316)   NS Div Free
Loss:  tensor(3.3519e-19)      Mv Bdry Loss:  tensor(843.9252)
Iteration: 6200        Total Loss: tensor(1701603.6250)
IC Loss:  tensor(0.0166)       BC Loss:  tensor(5.4616e-05)   NS PDE Loss:  tensor(1.8255)    NS Div Free
Loss:  tensor(9.0616e-18)      Mv Bdry Loss:  tensor(738.8035)
Iteration: 6400        Total Loss: tensor(1424764.6250)
IC Loss:  tensor(0.0139)       BC Loss:  tensor(1.7862e-07)   NS PDE Loss:  tensor(1.7638)    NS Div Free
Loss:  tensor(2.3449e-18)      Mv Bdry Loss:  tensor(653.1837)
Iteration: 6600        Total Loss: tensor(1356407.3750)
IC Loss:  tensor(0.0131)       BC Loss:  tensor(1.6433e-08)   NS PDE Loss:  tensor(1.8820)    NS Div Free
Loss:  tensor(2.0083e-20)      Mv Bdry Loss:  tensor(967.9754)
Iteration: 6800        Total Loss: tensor(1201072.8750)
IC Loss:  tensor(0.0116)       BC Loss:  tensor(1.4522e-08)   NS PDE Loss:  tensor(4.2461)    NS Div Free
Loss:  tensor(2.5386e-21)      Mv Bdry Loss:  tensor(897.7045)
Iteration: 7000        Total Loss: tensor(1.9040e+08)
IC Loss:  tensor(1.9028)       BC Loss:  tensor(1.4524e-08)   NS PDE Loss:  tensor(8.6815)    NS Div Free
Loss:  tensor(3.2444e-22)      Mv Bdry Loss:  tensor(2461.2695)
Iteration: 7200        Total Loss: tensor(1649698.)
IC Loss:  tensor(0.0161)       BC Loss:  tensor(1.4937e-08)   NS PDE Loss:  tensor(0.3702)    NS Div Free
Loss:  tensor(6.7568e-22)      Mv Bdry Loss:  tensor(731.1395)
Iteration: 7400        Total Loss: tensor(1253114.)
IC Loss:  tensor(0.0121)       BC Loss:  tensor(1.5263e-08)   NS PDE Loss:  tensor(4.4288)    NS Div Free
Loss:  tensor(4.1476e-21)      Mv Bdry Loss:  tensor(810.8765)
Iteration: 7600        Total Loss: tensor(1054988.1250)
IC Loss:  tensor(0.0104)       BC Loss:  tensor(1.6510e-08)   NS PDE Loss:  tensor(2.0335)    NS Div Free
Loss:  tensor(8.9795e-17)      Mv Bdry Loss:  tensor(370.8976)
Iteration: 7800        Total Loss: tensor(937804.5625)
IC Loss:  tensor(0.0091)       BC Loss:  tensor(8.3864e-07)   NS PDE Loss:  tensor(0.5775)    NS Div Free
Loss:  tensor(2.7780e-16)      Mv Bdry Loss:  tensor(518.6390)
Iteration: 8000        Total Loss: tensor(808977.3750)
IC Loss:  tensor(0.0079)       BC Loss:  tensor(9.1232e-05)   NS PDE Loss:  tensor(0.9648)    NS Div Free
Loss:  tensor(2.6412e-18)      Mv Bdry Loss:  tensor(413.6437)
Iteration: 8200        Total Loss: tensor(728679.6875)
IC Loss:  tensor(0.0071)       BC Loss:  tensor(0.0001)       NS PDE Loss:  tensor(0.9027)    NS Div Free
Loss:  tensor(1.8277e-12)      Mv Bdry Loss:  tensor(354.6901)
Iteration: 8400        Total Loss: tensor(695046.5000)
IC Loss:  tensor(0.0067)       BC Loss:  tensor(3.8913e-05)   NS PDE Loss:  tensor(1.3720)    NS Div Free
Loss:  tensor(1.2733e-19)      Mv Bdry Loss:  tensor(447.5901)
Iteration: 8600        Total Loss: tensor(853564.3125)
IC Loss:  tensor(0.0083)       BC Loss:  tensor(1.8593e-07)   NS PDE Loss:  tensor(0.0704)    NS Div Free
Loss:  tensor(2.0009e-19)      Mv Bdry Loss:  tensor(373.2489)
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Iteration: 8800        Total Loss: tensor(582372.0625)
IC Loss:  tensor(0.0056)        BC Loss:  tensor(1.2181e-07)   NS PDE Loss:  tensor(0.3558)    NS Div Free
Loss:  tensor(1.8022e-21)       Mv Bdry Loss:  tensor(370.4384)
Iteration: 9000        Total Loss: tensor(1215979.1250)
IC Loss:  tensor(0.0120)        BC Loss:  tensor(2.8503e-07)   NS PDE Loss:  tensor(11.9015)   NS Div Free
Loss:  tensor(7.0447e-21)       Mv Bdry Loss:  tensor(298.6084)
Iteration: 9200        Total Loss: tensor(2.1620e+08)
IC Loss:  tensor(2.1617)        BC Loss:  tensor(1.8282e-06)   NS PDE Loss:  tensor(9.8184)    NS Div Free
Loss:  tensor(2.4938e-22)       Mv Bdry Loss:  tensor(524.3093)
Iteration: 9400        Total Loss: tensor(1281859.6250)
IC Loss:  tensor(0.0107)        BC Loss:  tensor(6.9133e-08)   NS PDE Loss:  tensor(28.0373)   NS Div Free
Loss:  tensor(1.1322e-21)       Mv Bdry Loss:  tensor(4314.5444)
Iteration: 9600        Total Loss: tensor(1261325.6250)
IC Loss:  tensor(0.0123)        BC Loss:  tensor(6.2236e-08)   NS PDE Loss:  tensor(1.7730)    NS Div Free
Loss:  tensor(4.9342e-21)       Mv Bdry Loss:  tensor(540.9072)
Iteration: 9800        Total Loss: tensor(1319049.8750)
IC Loss:  tensor(0.0129)        BC Loss:  tensor(6.7575e-08)   NS PDE Loss:  tensor(5.5484)    NS Div Free
Loss:  tensor(1.5213e-21)       Mv Bdry Loss:  tensor(654.4398)
Iteration: 10000        Total Loss: tensor(98541832.)
IC Loss:  tensor(0.9780)        BC Loss:  tensor(6.8881e-08)   NS PDE Loss:  tensor(17.6891)   NS Div Free
Loss:  tensor(4.9383e-21)       Mv Bdry Loss:  tensor(14787.2383)
Iteration: 10200        Total Loss: tensor(9980662.)
IC Loss:  tensor(0.0992)        BC Loss:  tensor(6.4073e-08)   NS PDE Loss:  tensor(48.8115)   NS Div Free
Loss:  tensor(1.1203e-20)       Mv Bdry Loss:  tensor(1218.2327)
Iteration: 10400        Total Loss: tensor(1796583.6250)
IC Loss:  tensor(0.0178)        BC Loss:  tensor(0.0172)       NS PDE Loss:  tensor(0.0317)    NS Div Free
Loss:  tensor(6.1340e-20)       Mv Bdry Loss:  tensor(420.0671)
Iteration: 10600        Total Loss: tensor(558901.6250)
IC Loss:  tensor(0.0055)        BC Loss:  tensor(1.4509e-05)   NS PDE Loss:  tensor(0.0018)    NS Div Free
Loss:  tensor(1.8054e-23)       Mv Bdry Loss:  tensor(234.0189)
Iteration: 10800        Total Loss: tensor(585198.6875)
IC Loss:  tensor(0.0057)        BC Loss:  tensor(3.4602e-05)   NS PDE Loss:  tensor(0.0009)    NS Div Free
Loss:  tensor(1.0785e-21)       Mv Bdry Loss:  tensor(285.9187)
Iteration: 11000        Total Loss: tensor(675934.9375)
IC Loss:  tensor(0.0066)        BC Loss:  tensor(4.7963e-09)   NS PDE Loss:  tensor(0.0007)    NS Div Free
Loss:  tensor(2.7758e-22)       Mv Bdry Loss:  tensor(297.3601)
Iteration: 11200        Total Loss: tensor(2351299.2500)
IC Loss:  tensor(0.0233)        BC Loss:  tensor(5.0863e-09)   NS PDE Loss:  tensor(0.3522)    NS Div Free
Loss:  tensor(2.4987e-21)       Mv Bdry Loss:  tensor(474.0997)
Iteration: 11400        Total Loss: tensor(1614602.6250)
IC Loss:  tensor(0.0160)        BC Loss:  tensor(4.7352e-09)   NS PDE Loss:  tensor(6.7924)    NS Div Free
Loss:  tensor(2.5091e-22)       Mv Bdry Loss:  tensor(314.5135)
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Iteration: 11600      Total Loss: tensor(11602919.)
IC Loss:  tensor(0.1107)       BC Loss:  tensor(4.3012e-09)    NS PDE Loss:  tensor(37.2360)    NS Div Free
Loss:  tensor(1.0367e-21)       Mv Bdry Loss:  tensor(10668.3467)
Iteration: 11800      Total Loss: tensor(1740587.)
IC Loss:  tensor(0.0172)       BC Loss:  tensor(4.3494e-09)    NS PDE Loss:  tensor(0.3053)    NS Div Free
Loss:  tensor(5.9619e-21)       Mv Bdry Loss:  tensor(495.3596)
Iteration: 12000      Total Loss: tensor(1.3524e+08)
IC Loss:  tensor(1.3522)       BC Loss:  tensor(4.6505e-09)    NS PDE Loss:  tensor(1.9766)    NS Div Free
Loss:  tensor(2.0277e-21)       Mv Bdry Loss:  tensor(299.3484)
Iteration: 12200      Total Loss: tensor(646972.1875)
IC Loss:  tensor(0.0063)       BC Loss:  tensor(4.4414e-09)    NS PDE Loss:  tensor(0.0390)    NS Div Free
Loss:  tensor(6.4330e-22)       Mv Bdry Loss:  tensor(406.1617)
Iteration: 12400      Total Loss: tensor(518993.8438)
IC Loss:  tensor(0.0050)       BC Loss:  tensor(4.1805e-09)    NS PDE Loss:  tensor(0.0020)    NS Div Free
Loss:  tensor(2.4392e-20)       Mv Bdry Loss:  tensor(370.6346)
Iteration: 12600      Total Loss: tensor(2052399.1250)
IC Loss:  tensor(0.0204)       BC Loss:  tensor(4.1315e-09)    NS PDE Loss:  tensor(0.0044)    NS Div Free
Loss:  tensor(2.5408e-20)       Mv Bdry Loss:  tensor(297.6039)
Iteration: 12800      Total Loss: tensor(729549.5000)
IC Loss:  tensor(0.0072)       BC Loss:  tensor(0.0143)    NS PDE Loss:  tensor(0.0006)    NS Div Free
Loss:  tensor(3.8856e-20)       Mv Bdry Loss:  tensor(235.4979)
Iteration: 13000      Total Loss: tensor(377985.7500)
IC Loss:  tensor(0.0037)       BC Loss:  tensor(1.4337e-06)    NS PDE Loss:  tensor(0.0014)    NS Div Free
Loss:  tensor(2.8905e-20)       Mv Bdry Loss:  tensor(255.3085)
Iteration: 13200      Total Loss: tensor(310519.2812)
IC Loss:  tensor(0.0030)       BC Loss:  tensor(1.8029e-05)    NS PDE Loss:  tensor(0.0026)    NS Div Free
Loss:  tensor(9.6261e-21)       Mv Bdry Loss:  tensor(223.9241)
Iteration: 13400      Total Loss: tensor(377644.9375)
IC Loss:  tensor(0.0035)       BC Loss:  tensor(1.5456e-06)    NS PDE Loss:  tensor(0.5758)    NS Div Free
Loss:  tensor(1.0204e-21)       Mv Bdry Loss:  tensor(482.8810)
Iteration: 13600      Total Loss: tensor(490114.5000)
IC Loss:  tensor(0.0046)       BC Loss:  tensor(3.6698e-09)    NS PDE Loss:  tensor(1.1392)    NS Div Free
Loss:  tensor(1.3774e-20)       Mv Bdry Loss:  tensor(554.0211)
Iteration: 13800      Total Loss: tensor(261630.0469)
IC Loss:  tensor(0.0023)       BC Loss:  tensor(3.9821e-09)    NS PDE Loss:  tensor(0.7016)    NS Div Free
Loss:  tensor(7.8373e-21)       Mv Bdry Loss:  tensor(543.9953)
Iteration: 14000      Total Loss: tensor(2150486.2500)
IC Loss:  tensor(0.0212)       BC Loss:  tensor(4.1145e-09)    NS PDE Loss:  tensor(3.0399e-10)       NS
Div Free Loss:  tensor(5.1178e-21)     Mv Bdry Loss:  tensor(511.9021)
Iteration: 14200      Total Loss: tensor(1431713.7500)
IC Loss:  tensor(0.0142)       BC Loss:  tensor(4.5575e-09)    NS PDE Loss:  tensor(3.5716e-10)       NS
Div Free Loss:  tensor(1.6792e-21)     Mv Bdry Loss:  tensor(211.5393)
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Iteration: 14400        Total Loss: tensor(1.4150e+08)
IC Loss:  tensor(1.4120)        BC Loss:  tensor(5.4086e-09)    NS PDE Loss:  tensor(3.9480e-10)       NS
Div Free Loss:  tensor(9.0222e-22)     Mv Bdry Loss:  tensor(6089.1055)
Iteration: 14600        Total Loss: tensor(5.7930e+08)
IC Loss:  tensor(5.7926)        BC Loss:  tensor(6.7246e-09)    NS PDE Loss:  tensor(0.0006)    NS Div Free
Loss:  tensor(2.8084e-19)       Mv Bdry Loss:  tensor(703.7896)
Iteration: 14800        Total Loss: tensor(1541916.5000)
IC Loss:  tensor(0.0153)        BC Loss:  tensor(6.9288e-09)    NS PDE Loss:  tensor(0.1005)    NS Div Free
Loss:  tensor(1.4307e-18)       Mv Bdry Loss:  tensor(258.7167)
Iteration: 15000        Total Loss: tensor(12529288.)
IC Loss:  tensor(0.1249)        BC Loss:  tensor(8.4781e-09)    NS PDE Loss:  tensor(0.0005)    NS Div Free
Loss:  tensor(8.9689e-19)       Mv Bdry Loss:  tensor(760.6785)
Iteration: 15200        Total Loss: tensor(1066585.1250)
IC Loss:  tensor(0.0103)        BC Loss:  tensor(8.3066e-09)    NS PDE Loss:  tensor(0.0434)    NS Div Free
Loss:  tensor(7.9520e-19)       Mv Bdry Loss:  tensor(787.3750)
Iteration: 15400        Total Loss: tensor(798225.5000)
IC Loss:  tensor(0.0076)        BC Loss:  tensor(8.4560e-09)    NS PDE Loss:  tensor(0.0022)    NS Div Free
Loss:  tensor(1.4129e-18)       Mv Bdry Loss:  tensor(757.8182)
Iteration: 15600        Total Loss: tensor(799507.3750)
IC Loss:  tensor(0.0072)        BC Loss:  tensor(9.1738e-09)    NS PDE Loss:  tensor(0.0003)    NS Div Free
Loss:  tensor(2.3147e-19)       Mv Bdry Loss:  tensor(1510.6614)
Iteration: 15800        Total Loss: tensor(504988.1562)
IC Loss:  tensor(0.0048)        BC Loss:  tensor(9.2555e-09)    NS PDE Loss:  tensor(9.9545e-06)       NS
Div Free Loss:  tensor(9.7879e-19)     Mv Bdry Loss:  tensor(451.6096)
Iteration: 16000        Total Loss: tensor(433881.0938)
IC Loss:  tensor(0.0041)        BC Loss:  tensor(9.0996e-09)    NS PDE Loss:  tensor(3.2874e-05)       NS
Div Free Loss:  tensor(4.5030e-20)     Mv Bdry Loss:  tensor(438.8827)
Iteration: 16200        Total Loss: tensor(390586.5000)
IC Loss:  tensor(0.0037)        BC Loss:  tensor(9.3691e-09)    NS PDE Loss:  tensor(9.2476e-05)       NS
Div Free Loss:  tensor(2.9589e-20)     Mv Bdry Loss:  tensor(456.8990)
Iteration: 16400        Total Loss: tensor(2845086.5000)
IC Loss:  tensor(0.0282)        BC Loss:  tensor(1.0104e-08)    NS PDE Loss:  tensor(1.7994e-07)       NS
Div Free Loss:  tensor(2.2029e-19)     Mv Bdry Loss:  tensor(582.5243)
Iteration: 16600        Total Loss: tensor(21513378.)
IC Loss:  tensor(0.1903)        BC Loss:  tensor(1.0963e-08)    NS PDE Loss:  tensor(53.2965)   NS Div Free
Loss:  tensor(9.0652e-23)       Mv Bdry Loss:  tensor(49630.2500)
Iteration: 16800        Total Loss: tensor(13235376.)
IC Loss:  tensor(0.1270)        BC Loss:  tensor(1.1425e-08)    NS PDE Loss:  tensor(33.8580)   NS Div Free
Loss:  tensor(4.4717e-22)       Mv Bdry Loss:  tensor(10663.3955)
Iteration: 17000        Total Loss: tensor(685277.2500)
IC Loss:  tensor(0.0067)        BC Loss:  tensor(8.9804e-09)    NS PDE Loss:  tensor(17.6297)   NS Div Free
Loss:  tensor(4.6818e-20)       Mv Bdry Loss:  tensor(240.8842)
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Iteration: 17200      Total Loss: tensor(1058471.7500)
IC Loss:  tensor(0.0096)       BC Loss:  tensor(1.2751e-08)   NS PDE Loss:  tensor(39.2303)   NS Div Free
Loss:  tensor(1.0856e-20)      Mv Bdry Loss:  tensor(1985.0582)
Iteration: 17400      Total Loss: tensor(1.8355e+08)
IC Loss:  tensor(1.8351)       BC Loss:  tensor(1.2607e-08)   NS PDE Loss:  tensor(30.9367)   NS Div Free
Loss:  tensor(3.1124e-20)      Mv Bdry Loss:  tensor(925.9564)
Iteration: 17600      Total Loss: tensor(2.1802e+08)
IC Loss:  tensor(2.1786)       BC Loss:  tensor(2.3840e-08)   NS PDE Loss:  tensor(39.8495)   NS Div Free
Loss:  tensor(4.6240e-21)      Mv Bdry Loss:  tensor(3243.2456)
Iteration: 17800      Total Loss: tensor(1070208.)
IC Loss:  tensor(0.0105)       BC Loss:  tensor(1.2739e-08)   NS PDE Loss:  tensor(21.5370)   NS Div Free
Loss:  tensor(1.1271e-19)      Mv Bdry Loss:  tensor(342.9016)
Iteration: 18000      Total Loss: tensor(16742939.)
IC Loss:  tensor(0.1651)       BC Loss:  tensor(1.9355e-07)   NS PDE Loss:  tensor(40.0639)   NS Div Free
Loss:  tensor(2.2071e-21)      Mv Bdry Loss:  tensor(4740.8105)
Iteration: 18200      Total Loss: tensor(1401389.1250)
IC Loss:  tensor(0.0138)       BC Loss:  tensor(9.2064e-06)   NS PDE Loss:  tensor(33.8415)   NS Div Free
Loss:  tensor(1.3671e-20)      Mv Bdry Loss:  tensor(480.7723)
Iteration: 18400      Total Loss: tensor(1238734.6250)
IC Loss:  tensor(0.0120)       BC Loss:  tensor(1.0776e-06)   NS PDE Loss:  tensor(30.9905)   NS Div Free
Loss:  tensor(5.1523e-19)      Mv Bdry Loss:  tensor(713.9960)
Iteration: 18600      Total Loss: tensor(1.7567e+08)
IC Loss:  tensor(1.7550)       BC Loss:  tensor(0.0035)       NS PDE Loss:  tensor(35.9286)   NS Div Free
Loss:  tensor(1.3094e-20)      Mv Bdry Loss:  tensor(3404.0374)
Iteration: 18800      Total Loss: tensor(935050.4375)
IC Loss:  tensor(0.0092)       BC Loss:  tensor(0.0011)       NS PDE Loss:  tensor(20.9316)   NS Div Free
Loss:  tensor(1.4949e-18)      Mv Bdry Loss:  tensor(298.2818)
Iteration: 19000      Total Loss: tensor(15888601.)
IC Loss:  tensor(0.1532)       BC Loss:  tensor(7.7601e-07)   NS PDE Loss:  tensor(23.1410)   NS Div Free
Loss:  tensor(8.6502e-20)      Mv Bdry Loss:  tensor(11380.1797)
Iteration: 19200      Total Loss: tensor(2763268.2500)
IC Loss:  tensor(0.0268)       BC Loss:  tensor(8.2166e-07)   NS PDE Loss:  tensor(29.6730)   NS Div Free
Loss:  tensor(3.6682e-19)      Mv Bdry Loss:  tensor(1719.6045)
Iteration: 19400      Total Loss: tensor(552611.5625)
IC Loss:  tensor(0.0053)       BC Loss:  tensor(5.1357e-07)   NS PDE Loss:  tensor(27.1551)   NS Div Free
Loss:  tensor(1.9843e-19)      Mv Bdry Loss:  tensor(441.6559)
Iteration: 19600      Total Loss: tensor(53202564.)
IC Loss:  tensor(0.5310)       BC Loss:  tensor(7.0649e-07)   NS PDE Loss:  tensor(44.9298)   NS Div Free
Loss:  tensor(1.2034e-19)      Mv Bdry Loss:  tensor(1985.0442)
Iteration: 19800      Total Loss: tensor(759334.5000)
IC Loss:  tensor(0.0073)       BC Loss:  tensor(7.3095e-07)   NS PDE Loss:  tensor(25.8807)   NS Div Free
Loss:  tensor(1.0198e-19)      Mv Bdry Loss:  tensor(585.0509)
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Iteration: 20000      Total Loss: tensor(970680.)
IC Loss: tensor(0.0093)      BC Loss: tensor(1.0977e-06)    NS PDE Loss: tensor(37.1250)   NS Div Free
Loss: tensor(1.3702e-19)      Mv Bdry Loss: tensor(738.5015)
Current Final Time: 0.6 Current Learning Rate:  0.005
Iteration: 200  Total Loss: tensor(654873.1250)
IC Loss: tensor(0.0063)      BC Loss: tensor(8.3581e-07)    NS PDE Loss: tensor(39.2898)   NS Div Free
Loss: tensor(7.6552e-19)      Mv Bdry Loss: tensor(441.7477)
Iteration: 400  Total Loss: tensor(920006.3750)
IC Loss: tensor(0.0089)      BC Loss: tensor(0.0002)      NS PDE Loss: tensor(29.5483)   NS Div Free
Loss: tensor(2.4694e-19)      Mv Bdry Loss: tensor(581.3311)
Iteration: 600  Total Loss: tensor(509278.1562)
IC Loss: tensor(0.0049)      BC Loss: tensor(0.0001)      NS PDE Loss: tensor(26.9326)   NS Div Free
Loss: tensor(8.6171e-23)      Mv Bdry Loss: tensor(376.4190)
Iteration: 800  Total Loss: tensor(400571.9688)
IC Loss: tensor(0.0039)      BC Loss: tensor(1.3385e-08)    NS PDE Loss: tensor(24.2149)   NS Div Free
Loss: tensor(1.9003e-22)      Mv Bdry Loss: tensor(212.8746)
Iteration: 1000      Total Loss: tensor(399796.)
IC Loss: tensor(0.0036)      BC Loss: tensor(1.0950e-07)    NS PDE Loss: tensor(22.6241)   NS Div Free
Loss: tensor(6.3185e-22)      Mv Bdry Loss: tensor(869.4197)
Iteration: 1200      Total Loss: tensor(379972.0625)
IC Loss: tensor(0.0034)      BC Loss: tensor(2.3804e-06)    NS PDE Loss: tensor(25.6867)   NS Div Free
Loss: tensor(4.8043e-20)      Mv Bdry Loss: tensor(867.9209)
Iteration: 1400      Total Loss: tensor(5.0233e+08)
IC Loss: tensor(5.0228)      BC Loss: tensor(3.9226e-08)    NS PDE Loss: tensor(28.4544)   NS Div Free
Loss: tensor(3.1467e-20)      Mv Bdry Loss: tensor(975.3173)
Iteration: 1600      Total Loss: tensor(2464091.7500)
IC Loss: tensor(0.0220)      BC Loss: tensor(1.3015e-08)    NS PDE Loss: tensor(35.0560)   NS Div Free
Loss: tensor(5.9097e-20)      Mv Bdry Loss: tensor(5288.6646)
Iteration: 1800      Total Loss: tensor(8.0357e+08)
IC Loss: tensor(7.9908)      BC Loss: tensor(1.2950e-08)    NS PDE Loss: tensor(10.4507)   NS Div Free
Loss: tensor(5.8403e-20)      Mv Bdry Loss: tensor(89655.2031)
Iteration: 2000      Total Loss: tensor(1057596.)
IC Loss: tensor(0.0101)      BC Loss: tensor(1.2424e-08)    NS PDE Loss: tensor(24.7997)   NS Div Free
Loss: tensor(4.2974e-20)      Mv Bdry Loss: tensor(1017.7556)
Iteration: 2200      Total Loss: tensor(509798.6250)
IC Loss: tensor(0.0050)      BC Loss: tensor(1.2320e-08)    NS PDE Loss: tensor(24.3242)   NS Div Free
Loss: tensor(2.4224e-20)      Mv Bdry Loss: tensor(251.1637)
Iteration: 2400      Total Loss: tensor(10355592.)
IC Loss: tensor(0.0999)      BC Loss: tensor(1.0617e-08)    NS PDE Loss: tensor(28.4646)   NS Div Free
Loss: tensor(1.6652e-22)      Mv Bdry Loss: tensor(7264.3140)
Iteration: 2600      Total Loss: tensor(1.6816e+08)
IC Loss: tensor(1.6723)      BC Loss: tensor(1.0048e-08)    NS PDE Loss: tensor(23.0157)   NS Div Free
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Loss:   tensor(3.8728e-23)     Mv Bdry Loss:   tensor(18537.9609)
Iteration: 2800       Total Loss: tensor(673460.5625)
IC Loss:   tensor(0.0063)       BC Loss:   tensor(8.5845e-09)    NS PDE Loss:   tensor(22.2003)   NS Div Free
Loss:   tensor(1.9701e-23)     Mv Bdry Loss:   tensor(886.6870)
Iteration: 3000       Total Loss: tensor(492297.6875)
IC Loss:   tensor(0.0047)       BC Loss:   tensor(2.9790e-08)    NS PDE Loss:   tensor(19.7895)   NS Div Free
Loss:   tensor(3.5582e-23)     Mv Bdry Loss:   tensor(404.3674)
Iteration: 3200       Total Loss: tensor(9736054.)
IC Loss:   tensor(0.0960)       BC Loss:   tensor(0.0037)        NS PDE Loss:   tensor(30.4425)   NS Div Free
Loss:   tensor(2.2535e-22)     Mv Bdry Loss:   tensor(2797.7124)
Iteration: 3400       Total Loss: tensor(492724.)
IC Loss:   tensor(0.0044)       BC Loss:   tensor(1.3151e-08)    NS PDE Loss:   tensor(34.0427)   NS Div Free
Loss:   tensor(1.9010e-22)     Mv Bdry Loss:   tensor(1093.3964)
Iteration: 3600       Total Loss: tensor(425269.1875)
IC Loss:   tensor(0.0039)       BC Loss:   tensor(1.0596e-08)    NS PDE Loss:   tensor(30.7419)   NS Div Free
Loss:   tensor(8.0280e-23)     Mv Bdry Loss:   tensor(730.3411)
Iteration: 3800       Total Loss: tensor(367914.4688)
IC Loss:   tensor(0.0035)       BC Loss:   tensor(1.7111e-08)    NS PDE Loss:   tensor(25.7487)   NS Div Free
Loss:   tensor(5.4041e-23)     Mv Bdry Loss:   tensor(321.5267)
Iteration: 4000       Total Loss: tensor(3.8928e+08)
IC Loss:   tensor(3.8928)       BC Loss:   tensor(9.0669e-09)    NS PDE Loss:   tensor(10.2723)   NS Div Free
Loss:   tensor(1.1042e-22)     Mv Bdry Loss:   tensor(107.8183)
Iteration: 4200       Total Loss: tensor(493680.4375)
IC Loss:   tensor(0.0048)       BC Loss:   tensor(1.0444e-08)    NS PDE Loss:   tensor(16.3285)   NS Div Free
Loss:   tensor(2.4048e-23)     Mv Bdry Loss:   tensor(174.2917)
Iteration: 4400       Total Loss: tensor(1.2898e+08)
IC Loss:   tensor(1.2885)       BC Loss:   tensor(3.8285e-08)    NS PDE Loss:   tensor(32.0540)   NS Div Free
Loss:   tensor(2.0839e-23)     Mv Bdry Loss:   tensor(2599.8530)
Iteration: 4600       Total Loss: tensor(506588.7500)
IC Loss:   tensor(0.0049)       BC Loss:   tensor(1.6316e-05)    NS PDE Loss:   tensor(17.3302)   NS Div Free
Loss:   tensor(8.5285e-23)     Mv Bdry Loss:   tensor(393.4033)
Iteration: 4800       Total Loss: tensor(4301345.)
IC Loss:   tensor(0.0425)       BC Loss:   tensor(1.0342e-06)    NS PDE Loss:   tensor(26.4030)   NS Div Free
Loss:   tensor(4.7322e-20)     Mv Bdry Loss:   tensor(946.4790)
Iteration: 5000       Total Loss: tensor(29779492.)
IC Loss:   tensor(0.2973)       BC Loss:   tensor(8.9104e-07)    NS PDE Loss:   tensor(27.2601)   NS Div Free
Loss:   tensor(2.6496e-20)     Mv Bdry Loss:   tensor(1034.7893)
Iteration: 5200       Total Loss: tensor(4026708.)
IC Loss:   tensor(0.0398)       BC Loss:   tensor(9.5486e-07)    NS PDE Loss:   tensor(23.6389)   NS Div Free
Loss:   tensor(4.3701e-20)     Mv Bdry Loss:   tensor(840.7061)
Iteration: 5400       Total Loss: tensor(3889531.2500)
IC Loss:   tensor(0.0388)       BC Loss:   tensor(1.0517e-06)    NS PDE Loss:   tensor(23.4467)   NS Div Free
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Loss:  tensor(3.7391e-19)      Mv Bdry Loss:  tensor(284.6533)
Iteration: 5600       Total Loss: tensor(1544809.)
IC Loss:  tensor(0.0153)       BC Loss:  tensor(6.2876e-07)   NS PDE Loss:  tensor(21.5937)   NS Div Free
Loss:  tensor(2.7289e-18)      Mv Bdry Loss:  tensor(330.7265)
Iteration: 5800       Total Loss: tensor(869823.4375)
IC Loss:  tensor(0.0085)       BC Loss:  tensor(5.8406e-07)   NS PDE Loss:  tensor(20.2877)   NS Div Free
Loss:  tensor(9.3309e-19)      Mv Bdry Loss:  tensor(326.3681)
Iteration: 6000       Total Loss: tensor(5736034.)
IC Loss:  tensor(0.0558)       BC Loss:  tensor(0.0090)       NS PDE Loss:  tensor(33.4739)   NS Div Free
Loss:  tensor(6.4832e-20)      Mv Bdry Loss:  tensor(3174.4080)
Iteration: 6200       Total Loss: tensor(624726.8125)
IC Loss:  tensor(0.0060)       BC Loss:  tensor(1.7134e-07)   NS PDE Loss:  tensor(30.6320)   NS Div Free
Loss:  tensor(1.0643e-20)      Mv Bdry Loss:  tensor(509.3381)
Iteration: 6400       Total Loss: tensor(683596.8750)
IC Loss:  tensor(0.0061)       BC Loss:  tensor(3.7745e-08)   NS PDE Loss:  tensor(36.5850)   NS Div Free
Loss:  tensor(1.0419e-20)      Mv Bdry Loss:  tensor(1433.0396)
Iteration: 6600       Total Loss: tensor(419884.7188)
IC Loss:  tensor(0.0041)       BC Loss:  tensor(7.2552e-09)   NS PDE Loss:  tensor(22.8167)   NS Div Free
Loss:  tensor(2.4131e-21)      Mv Bdry Loss:  tensor(208.0356)
Iteration: 6800       Total Loss: tensor(418710.8438)
IC Loss:  tensor(0.0041)       BC Loss:  tensor(3.5276e-09)   NS PDE Loss:  tensor(24.3543)   NS Div Free
Loss:  tensor(6.0653e-22)      Mv Bdry Loss:  tensor(163.7183)
Iteration: 7000       Total Loss: tensor(797618.1250)
IC Loss:  tensor(0.0077)       BC Loss:  tensor(1.6852e-09)   NS PDE Loss:  tensor(25.3634)   NS Div Free
Loss:  tensor(5.4958e-22)      Mv Bdry Loss:  tensor(494.4385)
Iteration: 7200       Total Loss: tensor(651104.8125)
IC Loss:  tensor(0.0064)       BC Loss:  tensor(5.0530e-09)   NS PDE Loss:  tensor(28.5203)   NS Div Free
Loss:  tensor(1.1944e-23)      Mv Bdry Loss:  tensor(279.8510)
Iteration: 7400       Total Loss: tensor(661160.4375)
IC Loss:  tensor(0.0065)       BC Loss:  tensor(2.1740e-07)   NS PDE Loss:  tensor(27.5244)   NS Div Free
Loss:  tensor(1.8937e-22)      Mv Bdry Loss:  tensor(196.1416)
Iteration: 7600       Total Loss: tensor(5587616.5000)
IC Loss:  tensor(0.0556)       BC Loss:  tensor(0.0007)       NS PDE Loss:  tensor(29.2553)   NS Div Free
Loss:  tensor(3.2539e-22)      Mv Bdry Loss:  tensor(457.0199)
Iteration: 7800       Total Loss: tensor(1.5120e+08)
IC Loss:  tensor(1.5099)       BC Loss:  tensor(3.4083e-06)   NS PDE Loss:  tensor(26.0284)   NS Div Free
Loss:  tensor(2.7472e-23)      Mv Bdry Loss:  tensor(4073.7634)
Iteration: 8000       Total Loss: tensor(41297140.)
IC Loss:  tensor(0.3254)       BC Loss:  tensor(2.1399e-09)   NS PDE Loss:  tensor(37.3716)   NS Div Free
Loss:  tensor(1.8463e-22)      Mv Bdry Loss:  tensor(175200.3750)
Iteration: 8200       Total Loss: tensor(9365077.)
IC Loss:  tensor(0.0916)       BC Loss:  tensor(2.2077e-09)   NS PDE Loss:  tensor(27.1571)   NS Div Free
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Loss: tensor(3.5633e-22)     Mv Bdry Loss: tensor(4159.0005)
Iteration: 8400      Total Loss: tensor(6392937.)
IC Loss: tensor(0.0617)     BC Loss: tensor(2.4146e-09)   NS PDE Loss: tensor(44.3181)   NS Div Free
Loss: tensor(3.1742e-22)     Mv Bdry Loss: tensor(4405.6035)
Iteration: 8600      Total Loss: tensor(5397134.5000)
IC Loss: tensor(0.0506)     BC Loss: tensor(2.4205e-09)   NS PDE Loss: tensor(46.0692)   NS Div Free
Loss: tensor(1.9061e-22)     Mv Bdry Loss: tensor(6763.2612)
Iteration: 8800      Total Loss: tensor(3092751.2500)
IC Loss: tensor(0.0298)     BC Loss: tensor(2.8986e-09)   NS PDE Loss: tensor(32.4639)   NS Div Free
Loss: tensor(3.3648e-22)     Mv Bdry Loss: tensor(2286.3301)
Iteration: 9000      Total Loss: tensor(3834627.7500)
IC Loss: tensor(0.0259)     BC Loss: tensor(3.2857e-09)   NS PDE Loss: tensor(26.7776)   NS Div Free
Loss: tensor(2.5476e-22)     Mv Bdry Loss: tensor(24793.3535)
Iteration: 9200      Total Loss: tensor(2892920.5000)
IC Loss: tensor(0.0266)     BC Loss: tensor(3.1894e-09)   NS PDE Loss: tensor(31.5511)   NS Div Free
Loss: tensor(8.1218e-23)     Mv Bdry Loss: tensor(4602.6709)
Iteration: 9400      Total Loss: tensor(2190818.)
IC Loss: tensor(0.0196)     BC Loss: tensor(3.1085e-09)   NS PDE Loss: tensor(33.9207)   NS Div Free
Loss: tensor(1.7619e-23)     Mv Bdry Loss: tensor(4654.7061)
Iteration: 9600      Total Loss: tensor(14217554.)
IC Loss: tensor(0.1344)     BC Loss: tensor(2.7607e-09)   NS PDE Loss: tensor(41.5041)   NS Div Free
Loss: tensor(2.6720e-22)     Mv Bdry Loss: tensor(15506.3838)
Iteration: 9800      Total Loss: tensor(2464084.2500)
IC Loss: tensor(0.0244)     BC Loss: tensor(2.7697e-09)   NS PDE Loss: tensor(31.9620)   NS Div Free
Loss: tensor(6.3422e-22)     Mv Bdry Loss: tensor(516.8107)
Iteration: 10000      Total Loss: tensor(7404972.)
IC Loss: tensor(0.0336)     BC Loss: tensor(3.1237e-09)   NS PDE Loss: tensor(75.3841)   NS Div Free
Loss: tensor(3.5474e-24)     Mv Bdry Loss: tensor(80799.2266)
Iteration: 10200      Total Loss: tensor(982159.2500)
IC Loss: tensor(0.0098)     BC Loss: tensor(0.0001)     NS PDE Loss: tensor(14.2209)   NS Div Free
Loss: tensor(1.3882e-22)     Mv Bdry Loss: tensor(142.7564)
Iteration: 10400      Total Loss: tensor(1150762.1250)
IC Loss: tensor(0.0114)     BC Loss: tensor(0.0013)     NS PDE Loss: tensor(29.9373)   NS Div Free
Loss: tensor(1.7128e-23)     Mv Bdry Loss: tensor(183.3413)
Iteration: 10600      Total Loss: tensor(2107584.)
IC Loss: tensor(0.0210)     BC Loss: tensor(2.6982e-08)   NS PDE Loss: tensor(0.1724)    NS Div Free
Loss: tensor(6.3847e-23)     Mv Bdry Loss: tensor(76.3149)
Iteration: 10800      Total Loss: tensor(803261.5625)
IC Loss: tensor(0.0080)     BC Loss: tensor(4.9744e-09)   NS PDE Loss: tensor(18.1335)   NS Div Free
Loss: tensor(3.5813e-23)     Mv Bdry Loss: tensor(113.1291)
Iteration: 11000      Total Loss: tensor(722214.9375)
IC Loss: tensor(0.0072)     BC Loss: tensor(4.7910e-09)   NS PDE Loss: tensor(24.2000)   NS Div Free
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Loss: tensor(1.8379e-21)   Mv Bdry Loss: tensor(108.1276)
Iteration: 11200   Total Loss: tensor(42968920.)
IC Loss: tensor(0.4296)   BC Loss: tensor(4.9739e-09)   NS PDE Loss: tensor(0.2996)   NS Div Free
Loss: tensor(8.4845e-22)   Mv Bdry Loss: tensor(122.1913)
Iteration: 11400   Total Loss: tensor(53806944.)
IC Loss: tensor(0.5380)   BC Loss: tensor(4.9932e-09)   NS PDE Loss: tensor(27.5861)   NS Div Free
Loss: tensor(9.8118e-22)   Mv Bdry Loss: tensor(91.3097)
Iteration: 11600   Total Loss: tensor(4995581.5000)
IC Loss: tensor(0.0499)   BC Loss: tensor(4.7433e-09)   NS PDE Loss: tensor(0.0002)   NS Div Free
Loss: tensor(8.3645e-23)   Mv Bdry Loss: tensor(171.7950)
Iteration: 11800   Total Loss: tensor(1424736.2500)
IC Loss: tensor(0.0142)   BC Loss: tensor(8.2024e-09)   NS PDE Loss: tensor(0.0303)   NS Div Free
Loss: tensor(2.9876e-22)   Mv Bdry Loss: tensor(116.1729)
Iteration: 12000   Total Loss: tensor(35228376.)
IC Loss: tensor(0.3515)   BC Loss: tensor(4.5689e-09)   NS PDE Loss: tensor(0.3685)   NS Div Free
Loss: tensor(1.9397e-22)   Mv Bdry Loss: tensor(1484.2603)
Iteration: 12200   Total Loss: tensor(1543423.2500)
IC Loss: tensor(0.0141)   BC Loss: tensor(4.3827e-09)   NS PDE Loss: tensor(0.0225)   NS Div Free
Loss: tensor(6.5426e-23)   Mv Bdry Loss: tensor(2724.2212)
Iteration: 12400   Total Loss: tensor(1.3582e+08)
IC Loss: tensor(1.3524)   BC Loss: tensor(4.4207e-09)   NS PDE Loss: tensor(0.0007)   NS Div Free
Loss: tensor(2.1296e-23)   Mv Bdry Loss: tensor(11660.2793)
Iteration: 12600   Total Loss: tensor(40306364.)
IC Loss: tensor(0.4026)   BC Loss: tensor(3.9099e-09)   NS PDE Loss: tensor(5.9847)   NS Div Free
Loss: tensor(8.0066e-23)   Mv Bdry Loss: tensor(978.2250)
Iteration: 12800   Total Loss: tensor(2109220.2500)
IC Loss: tensor(0.0210)   BC Loss: tensor(5.7428e-08)   NS PDE Loss: tensor(0.0114)   NS Div Free
Loss: tensor(3.1288e-22)   Mv Bdry Loss: tensor(265.7830)
Iteration: 13000   Total Loss: tensor(1285424.5000)
IC Loss: tensor(0.0128)   BC Loss: tensor(3.7195e-09)   NS PDE Loss: tensor(0.0023)   NS Div Free
Loss: tensor(6.1339e-22)   Mv Bdry Loss: tensor(199.0712)
Iteration: 13200   Total Loss: tensor(974413.5625)
IC Loss: tensor(0.0097)   BC Loss: tensor(4.9838e-07)   NS PDE Loss: tensor(0.0014)   NS Div Free
Loss: tensor(4.5731e-22)   Mv Bdry Loss: tensor(163.9666)
Iteration: 13400   Total Loss: tensor(826801.3125)
IC Loss: tensor(0.0082)   BC Loss: tensor(5.7981e-08)   NS PDE Loss: tensor(0.0013)   NS Div Free
Loss: tensor(1.9419e-23)   Mv Bdry Loss: tensor(212.3384)
Iteration: 13600   Total Loss: tensor(733371.0625)
IC Loss: tensor(0.0073)   BC Loss: tensor(3.5715e-08)   NS PDE Loss: tensor(0.0014)   NS Div Free
Loss: tensor(2.9496e-22)   Mv Bdry Loss: tensor(154.0367)
Iteration: 13800   Total Loss: tensor(2.4282e+08)
IC Loss: tensor(2.4278)   BC Loss: tensor(8.6155e-06)   NS PDE Loss: tensor(0.7683)   NS Div Free

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Loss:   tensor(2.0622e-22)      Mv Bdry Loss:  tensor(851.9779)
Iteration: 14000      Total Loss: tensor(41136800.)
IC Loss:  tensor(0.4111)       BC Loss:  tensor(2.3032e-09)    NS PDE Loss:  tensor(4.2287)    NS Div Free
Loss:   tensor(4.5374e-22)      Mv Bdry Loss:  tensor(448.9653)
Iteration: 14200      Total Loss: tensor(47803588.)
IC Loss:  tensor(0.4773)       BC Loss:  tensor(0.0493)       NS PDE Loss:  tensor(5.5908)    NS Div Free
Loss:   tensor(1.3137e-22)      Mv Bdry Loss:  tensor(1523.5106)
Iteration: 14400      Total Loss: tensor(1529707.8750)
IC Loss:  tensor(0.0153)       BC Loss:  tensor(7.0384e-05)    NS PDE Loss:  tensor(0.6413)    NS Div Free
Loss:   tensor(1.2815e-21)      Mv Bdry Loss:  tensor(53.6369)
Iteration: 14600      Total Loss: tensor(12492581.)
IC Loss:  tensor(0.1248)       BC Loss:  tensor(0.0040)       NS PDE Loss:  tensor(0.3115)    NS Div Free
Loss:   tensor(2.0846e-22)      Mv Bdry Loss:  tensor(335.6022)
Iteration: 14800      Total Loss: tensor(707993.8750)
IC Loss:  tensor(0.0070)       BC Loss:  tensor(4.2834e-06)    NS PDE Loss:  tensor(0.4258)    NS Div Free
Loss:   tensor(9.3318e-23)      Mv Bdry Loss:  tensor(229.0611)
Iteration: 15000      Total Loss: tensor(744402.6250)
IC Loss:  tensor(0.0074)       BC Loss:  tensor(8.0491e-10)    NS PDE Loss:  tensor(0.2419)    NS Div Free
Loss:   tensor(5.1392e-23)      Mv Bdry Loss:  tensor(74.6986)
Iteration: 15200      Total Loss: tensor(665347.4375)
IC Loss:  tensor(0.0066)       BC Loss:  tensor(6.4328e-10)    NS PDE Loss:  tensor(0.1619)    NS Div Free
Loss:   tensor(2.9240e-23)      Mv Bdry Loss:  tensor(86.3251)
Iteration: 15400      Total Loss: tensor(617236.1250)
IC Loss:  tensor(0.0061)       BC Loss:  tensor(8.2087e-10)    NS PDE Loss:  tensor(0.1485)    NS Div Free
Loss:   tensor(6.1792e-23)      Mv Bdry Loss:  tensor(89.1720)
Iteration: 15600      Total Loss: tensor(571255.4375)
IC Loss:  tensor(0.0057)       BC Loss:  tensor(6.6183e-10)    NS PDE Loss:  tensor(0.1427)    NS Div Free
Loss:   tensor(1.5360e-22)      Mv Bdry Loss:  tensor(89.4340)
Iteration: 15800      Total Loss: tensor(472688.8438)
IC Loss:  tensor(0.0047)       BC Loss:  tensor(4.0067e-09)    NS PDE Loss:  tensor(0.1988)    NS Div Free
Loss:   tensor(4.0433e-23)      Mv Bdry Loss:  tensor(90.2057)
Iteration: 16000      Total Loss: tensor(448758.8125)
IC Loss:  tensor(0.0044)       BC Loss:  tensor(1.9519e-06)    NS PDE Loss:  tensor(0.2068)    NS Div Free
Loss:   tensor(8.6486e-23)      Mv Bdry Loss:  tensor(84.5859)
Iteration: 16200      Total Loss: tensor(1575903.1250)
IC Loss:  tensor(0.0157)       BC Loss:  tensor(8.7701e-06)    NS PDE Loss:  tensor(0.2706)    NS Div Free
Loss:   tensor(6.4952e-23)      Mv Bdry Loss:  tensor(59.4777)
Iteration: 16400      Total Loss: tensor(596635.0625)
IC Loss:  tensor(0.0059)       BC Loss:  tensor(2.2974e-06)    NS PDE Loss:  tensor(0.4697)    NS Div Free
Loss:   tensor(6.9065e-23)      Mv Bdry Loss:  tensor(87.6539)
Iteration: 16600      Total Loss: tensor(1.7496e+08)
IC Loss:  tensor(1.7495)       BC Loss:  tensor(5.5482e-06)    NS PDE Loss:  tensor(7.1817)    NS Div Free
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Loss: tensor(3.5954e-23)   Mv Bdry Loss: tensor(290.4205)
Iteration: 16800   Total Loss: tensor(16119009.)
IC Loss: tensor(0.1180)   BC Loss: tensor(8.3010e-09)   NS PDE Loss: tensor(87.6143)   NS Div Free
Loss: tensor(1.3617e-25)   Mv Bdry Loss: tensor(86380.6797)
Iteration: 17000   Total Loss: tensor(2149124.7500)
IC Loss: tensor(0.0175)   BC Loss: tensor(6.0461e-10)   NS PDE Loss: tensor(57.0464)   NS Div Free
Loss: tensor(2.6922e-23)   Mv Bdry Loss: tensor(7926.1880)
Iteration: 17200   Total Loss: tensor(68461928.)
IC Loss: tensor(0.6822)   BC Loss: tensor(2.7929e-09)   NS PDE Loss: tensor(69.8203)   NS Div Free
Loss: tensor(2.1139e-24)   Mv Bdry Loss: tensor(4923.6338)
Iteration: 17400   Total Loss: tensor(1693423.6250)
IC Loss: tensor(0.0165)   BC Loss: tensor(2.5926e-08)   NS PDE Loss: tensor(61.7598)   NS Div Free
Loss: tensor(1.4733e-24)   Mv Bdry Loss: tensor(856.2980)
Iteration: 17600   Total Loss: tensor(1044440.8750)
IC Loss: tensor(0.0104)   BC Loss: tensor(4.1661e-05)   NS PDE Loss: tensor(3.1260)   NS Div Free
Loss: tensor(4.6781e-23)   Mv Bdry Loss: tensor(145.5079)
Iteration: 17800   Total Loss: tensor(1282473.6250)
IC Loss: tensor(0.0128)   BC Loss: tensor(0.0210)   NS PDE Loss: tensor(3.3126)   NS Div Free
Loss: tensor(1.2441e-23)   Mv Bdry Loss: tensor(107.3096)
Iteration: 18000   Total Loss: tensor(591028.6875)
IC Loss: tensor(0.0058)   BC Loss: tensor(1.0454e-05)   NS PDE Loss: tensor(15.8909)   NS Div Free
Loss: tensor(4.3000e-24)   Mv Bdry Loss: tensor(165.6472)
Iteration: 18200   Total Loss: tensor(3841072.)
IC Loss: tensor(0.0382)   BC Loss: tensor(0.0006)   NS PDE Loss: tensor(9.1067e-06)   NS
Div Free Loss: tensor(2.6070e-23)   Mv Bdry Loss: tensor(417.0049)
Iteration: 18400   Total Loss: tensor(513292.8750)
IC Loss: tensor(0.0050)   BC Loss: tensor(1.5041e-09)   NS PDE Loss: tensor(0.0168)   NS Div Free
Loss: tensor(2.0622e-23)   Mv Bdry Loss: tensor(172.4931)
Iteration: 18600   Total Loss: tensor(1.1180e+08)
IC Loss: tensor(1.1178)   BC Loss: tensor(1.2472e-05)   NS PDE Loss: tensor(0.0002)   NS Div Free
Loss: tensor(2.4043e-22)   Mv Bdry Loss: tensor(248.3031)
Iteration: 18800   Total Loss: tensor(21752182.)
IC Loss: tensor(0.2169)   BC Loss: tensor(1.9374e-08)   NS PDE Loss: tensor(4.5893)   NS Div Free
Loss: tensor(1.4553e-23)   Mv Bdry Loss: tensor(1170.7042)
Iteration: 19000   Total Loss: tensor(1139354.1250)
IC Loss: tensor(0.0111)   BC Loss: tensor(1.1423e-09)   NS PDE Loss: tensor(0.0021)   NS Div Free
Loss: tensor(2.1347e-22)   Mv Bdry Loss: tensor(532.1896)
Iteration: 19200   Total Loss: tensor(954177.2500)
IC Loss: tensor(0.0094)   BC Loss: tensor(9.9527e-10)   NS PDE Loss: tensor(0.0004)   NS Div Free
Loss: tensor(2.9358e-24)   Mv Bdry Loss: tensor(362.5487)
Iteration: 19400   Total Loss: tensor(19275546.)
IC Loss: tensor(0.1924)   BC Loss: tensor(9.2778e-10)   NS PDE Loss: tensor(5.7329)   NS Div Free

Loss: tensor(5.5961e-24)   Mv Bdry Loss: tensor(708.8505)
Iteration: 19600   Total Loss: tensor(860052.6875)
IC Loss: tensor(0.0085)   BC Loss: tensor(1.0462e-09)   NS PDE Loss: tensor(0.0010)   NS Div Free
Loss: tensor(4.4466e-22)   Mv Bdry Loss: tensor(191.9798)
Iteration: 19800   Total Loss: tensor(649621.1250)
IC Loss: tensor(0.0064)   BC Loss: tensor(1.1069e-09)   NS PDE Loss: tensor(9.3686e-05)   NS
Div Free Loss: tensor(1.3729e-23)   Mv Bdry Loss: tensor(142.7336)
Iteration: 20000   Total Loss: tensor(590426.1250)
IC Loss: tensor(0.0058)   BC Loss: tensor(1.3440e-09)   NS PDE Loss: tensor(2.6240e-05)   NS
Div Free Loss: tensor(5.5499e-23)   Mv Bdry Loss: tensor(120.0911)
Current Final Time: 0.8 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(801960.1875)
IC Loss: tensor(0.0079)   BC Loss: tensor(1.6468e-09)   NS PDE Loss: tensor(1.2679e-07)   NS
Div Free Loss: tensor(7.0587e-22)   Mv Bdry Loss: tensor(175.7036)
Iteration: 400 Total Loss: tensor(486316.7188)
IC Loss: tensor(0.0048)   BC Loss: tensor(2.0714e-08)   NS PDE Loss: tensor(0.1208)   NS Div Free
Loss: tensor(4.4136e-21)   Mv Bdry Loss: tensor(85.3227)
Iteration: 600 Total Loss: tensor(792252.1250)
IC Loss: tensor(0.0079)   BC Loss: tensor(2.3911e-06)   NS PDE Loss: tensor(0.0136)   NS Div Free
Loss: tensor(2.8617e-21)   Mv Bdry Loss: tensor(60.6025)
Iteration: 800 Total Loss: tensor(440763.4688)
IC Loss: tensor(0.0044)   BC Loss: tensor(4.6015e-06)   NS PDE Loss: tensor(0.0043)   NS Div Free
Loss: tensor(1.9949e-23)   Mv Bdry Loss: tensor(80.9688)
Iteration: 1000   Total Loss: tensor(2882964.5000)
IC Loss: tensor(0.0288)   BC Loss: tensor(0.0026)   NS PDE Loss: tensor(0.7391)   NS Div Free
Loss: tensor(8.0218e-22)   Mv Bdry Loss: tensor(74.2428)
Iteration: 1200   Total Loss: tensor(631329.0625)
IC Loss: tensor(0.0060)   BC Loss: tensor(7.9805e-10)   NS PDE Loss: tensor(27.0298)   NS Div Free
Loss: tensor(5.0118e-24)   Mv Bdry Loss: tensor(584.3012)
Iteration: 1400   Total Loss: tensor(389770.3750)
IC Loss: tensor(0.0039)   BC Loss: tensor(8.2193e-10)   NS PDE Loss: tensor(9.9150)   NS Div Free
Loss: tensor(6.0239e-24)   Mv Bdry Loss: tensor(74.9106)
Iteration: 1600   Total Loss: tensor(358808.3438)
IC Loss: tensor(0.0036)   BC Loss: tensor(8.0731e-10)   NS PDE Loss: tensor(6.9981)   NS Div Free
Loss: tensor(4.3203e-25)   Mv Bdry Loss: tensor(49.8372)
Iteration: 1800   Total Loss: tensor(10554427.)
IC Loss: tensor(0.1052)   BC Loss: tensor(1.1670e-06)   NS PDE Loss: tensor(0.6029)   NS Div Free
Loss: tensor(4.9536e-23)   Mv Bdry Loss: tensor(591.3864)
Iteration: 2000   Total Loss: tensor(76508336.)
IC Loss: tensor(0.7640)   BC Loss: tensor(0.0004)   NS PDE Loss: tensor(63.1771)   NS Div Free
Loss: tensor(8.2244e-24)   Mv Bdry Loss: tensor(2215.2332)
Iteration: 2200   Total Loss: tensor(626389.5000)

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IC Loss:  tensor(0.0049)        BC Loss:  tensor(2.5859e-05)    NS PDE Loss:  tensor(48.6241)    NS Div Free
Loss:  tensor(2.8633e-24)        Mv Bdry Loss:  tensor(2825.2183)
Iteration: 2400         Total Loss: tensor(544775.6875)
IC Loss:  tensor(0.0040)        BC Loss:  tensor(2.5785e-09)    NS PDE Loss:  tensor(44.9158)    NS Div Free
Loss:  tensor(1.7770e-23)        Mv Bdry Loss:  tensor(2849.5962)
Iteration: 2600         Total Loss: tensor(67727096.)
IC Loss:  tensor(0.6757)        BC Loss:  tensor(1.1256e-09)    NS PDE Loss:  tensor(61.0876)    NS Div Free
Loss:  tensor(4.8791e-24)        Mv Bdry Loss:  tensor(3160.1985)
Iteration: 2800         Total Loss: tensor(57292712.)
IC Loss:  tensor(0.5709)        BC Loss:  tensor(1.1974e-09)    NS PDE Loss:  tensor(53.4458)    NS Div Free
Loss:  tensor(2.3426e-23)        Mv Bdry Loss:  tensor(3966.8403)
Iteration: 3000         Total Loss: tensor(769345.1250)
IC Loss:  tensor(0.0076)        BC Loss:  tensor(9.3403e-10)    NS PDE Loss:  tensor(0.0025)    NS Div Free
Loss:  tensor(3.3157e-22)        Mv Bdry Loss:  tensor(95.8932)
Iteration: 3200         Total Loss: tensor(437110.6562)
IC Loss:  tensor(0.0043)        BC Loss:  tensor(9.0794e-10)    NS PDE Loss:  tensor(0.0014)    NS Div Free
Loss:  tensor(2.5135e-22)        Mv Bdry Loss:  tensor(98.7521)
Iteration: 3400         Total Loss: tensor(4677444.5000)
IC Loss:  tensor(0.0467)        BC Loss:  tensor(1.5549e-09)    NS PDE Loss:  tensor(0.4010)    NS Div Free
Loss:  tensor(1.7754e-22)        Mv Bdry Loss:  tensor(243.2546)
Iteration: 3600         Total Loss: tensor(509012.2500)
IC Loss:  tensor(0.0050)        BC Loss:  tensor(6.2732e-09)    NS PDE Loss:  tensor(9.0830)    NS Div Free
Loss:  tensor(5.9342e-22)        Mv Bdry Loss:  tensor(186.8254)
Iteration: 3800         Total Loss: tensor(2.3824e+08)
IC Loss:  tensor(2.3823)        BC Loss:  tensor(3.3167e-06)    NS PDE Loss:  tensor(7.3162)    NS Div Free
Loss:  tensor(3.5165e-22)        Mv Bdry Loss:  tensor(256.0090)
Iteration: 4000         Total Loss: tensor(1.7316e+08)
IC Loss:  tensor(1.7310)        BC Loss:  tensor(1.4525e-06)    NS PDE Loss:  tensor(36.4070)    NS Div Free
Loss:  tensor(1.0467e-21)        Mv Bdry Loss:  tensor(1287.2175)
Iteration: 4200         Total Loss: tensor(5175121.5000)
IC Loss:  tensor(0.0512)        BC Loss:  tensor(1.1815e-09)    NS PDE Loss:  tensor(33.6474)    NS Div Free
Loss:  tensor(1.5738e-21)        Mv Bdry Loss:  tensor(1200.0574)
Iteration: 4400         Total Loss: tensor(578649.1250)
IC Loss:  tensor(0.0056)        BC Loss:  tensor(2.1805e-06)    NS PDE Loss:  tensor(3.1281e-12)        NS
Div Free Loss:  tensor(1.2408e-24)    Mv Bdry Loss:  tensor(345.0135)
Iteration: 4600         Total Loss: tensor(553647.1250)
IC Loss:  tensor(0.0054)        BC Loss:  tensor(0.0049)        NS PDE Loss:  tensor(7.3664e-13)        NS
Div Free Loss:  tensor(8.0008e-23)    Mv Bdry Loss:  tensor(288.8731)
Iteration: 4800         Total Loss: tensor(94937912.)
IC Loss:  tensor(0.9486)        BC Loss:  tensor(9.3595e-06)    NS PDE Loss:  tensor(3.3432e-08)        NS
Div Free Loss:  tensor(8.3696e-24)    Mv Bdry Loss:  tensor(1533.7738)
Iteration: 5000         Total Loss: tensor(4002497.)
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IC Loss:  tensor(0.0400)         BC Loss:  tensor(1.4737e-10)    NS PDE Loss:  tensor(1.6816e-05)        NS
Div Free Loss:  tensor(3.5502e-22)     Mv Bdry Loss:  tensor(134.4703)
Iteration: 5200       Total Loss: tensor(439095.8750)
IC Loss:  tensor(0.0044)         BC Loss:  tensor(4.0420e-11)    NS PDE Loss:  tensor(0.0018)    NS Div Free
Loss:  tensor(4.0002e-23)       Mv Bdry Loss:  tensor(78.8358)
Iteration: 5400       Total Loss: tensor(5841111.5000)
IC Loss:  tensor(0.0583)         BC Loss:  tensor(3.6846e-09)    NS PDE Loss:  tensor(0.0007)    NS Div Free
Loss:  tensor(1.2935e-22)       Mv Bdry Loss:  tensor(187.4214)
Iteration: 5600       Total Loss: tensor(501602.1250)
IC Loss:  tensor(0.0050)         BC Loss:  tensor(2.5170e-11)    NS PDE Loss:  tensor(8.3840)    NS Div Free
Loss:  tensor(1.8793e-23)       Mv Bdry Loss:  tensor(30.8141)
Iteration: 5800       Total Loss: tensor(445289.3750)
IC Loss:  tensor(0.0044)         BC Loss:  tensor(2.9823e-11)    NS PDE Loss:  tensor(9.9965)    NS Div Free
Loss:  tensor(6.5934e-23)       Mv Bdry Loss:  tensor(121.8628)
Iteration: 6000       Total Loss: tensor(986236.1875)
IC Loss:  tensor(0.0098)         BC Loss:  tensor(1.5194e-07)    NS PDE Loss:  tensor(0.0002)    NS Div Free
Loss:  tensor(7.9377e-23)       Mv Bdry Loss:  tensor(147.0267)
Iteration: 6200       Total Loss: tensor(290419.3438)
IC Loss:  tensor(0.0028)         BC Loss:  tensor(1.3192e-09)    NS PDE Loss:  tensor(8.2119)    NS Div Free
Loss:  tensor(1.4625e-22)       Mv Bdry Loss:  tensor(110.6274)
Iteration: 6400       Total Loss: tensor(369662.2500)
IC Loss:  tensor(0.0037)         BC Loss:  tensor(1.0369e-10)    NS PDE Loss:  tensor(0.5662)    NS Div Free
Loss:  tensor(3.6250e-23)       Mv Bdry Loss:  tensor(83.7751)
Iteration: 6600       Total Loss: tensor(360758.3750)
IC Loss:  tensor(0.0036)         BC Loss:  tensor(1.9861e-08)    NS PDE Loss:  tensor(3.0468)    NS Div Free
Loss:  tensor(1.5557e-23)       Mv Bdry Loss:  tensor(80.2068)
Iteration: 6800       Total Loss: tensor(732944.5000)
IC Loss:  tensor(0.0073)         BC Loss:  tensor(0.0004)        NS PDE Loss:  tensor(0.0129)    NS Div Free
Loss:  tensor(3.5043e-23)       Mv Bdry Loss:  tensor(65.8891)
Iteration: 7000       Total Loss: tensor(338902.5625)
IC Loss:  tensor(0.0033)         BC Loss:  tensor(6.1803e-06)    NS PDE Loss:  tensor(1.6392e-05)        NS
Div Free Loss:  tensor(1.7338e-21)     Mv Bdry Loss:  tensor(187.2414)
Iteration: 7200       Total Loss: tensor(629153.5000)
IC Loss:  tensor(0.0062)         BC Loss:  tensor(2.4732e-05)    NS PDE Loss:  tensor(0.0571)    NS Div Free
Loss:  tensor(5.3732e-22)       Mv Bdry Loss:  tensor(85.8696)
Iteration: 7400       Total Loss: tensor(234744.8750)
IC Loss:  tensor(0.0023)         BC Loss:  tensor(1.2119e-09)    NS PDE Loss:  tensor(0.0161)    NS Div Free
Loss:  tensor(7.6070e-22)       Mv Bdry Loss:  tensor(70.2705)
Iteration: 7600       Total Loss: tensor(265416.0938)
IC Loss:  tensor(0.0026)         BC Loss:  tensor(9.7763e-11)    NS PDE Loss:  tensor(0.9991)    NS Div Free
Loss:  tensor(2.8219e-23)       Mv Bdry Loss:  tensor(133.5991)
Iteration: 7800       Total Loss: tensor(1.1315e+08)
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IC Loss:  tensor(0.9150)        BC Loss:  tensor(8.0969e-11)   NS PDE Loss:  tensor(57.5586)   NS Div Free
Loss:  tensor(4.7123e-23)       Mv Bdry Loss:  tensor(433065.6250)
Iteration: 8000        Total Loss: tensor(2.0401e+08)
IC Loss:  tensor(2.0222)        BC Loss:  tensor(8.5288e-11)   NS PDE Loss:  tensor(57.3504)   NS Div Free
Loss:  tensor(3.5368e-25)       Mv Bdry Loss:  tensor(35833.5859)
Iteration: 8200        Total Loss: tensor(3.0133e+08)
IC Loss:  tensor(2.9804)        BC Loss:  tensor(5.6143e-11)   NS PDE Loss:  tensor(75.0577)   NS Div Free
Loss:  tensor(7.9042e-25)       Mv Bdry Loss:  tensor(65931.6094)
Iteration: 8400        Total Loss: tensor(6490088.)
IC Loss:  tensor(0.0529)        BC Loss:  tensor(5.6384e-11)   NS PDE Loss:  tensor(73.3705)   NS Div Free
Loss:  tensor(4.0886e-24)       Mv Bdry Loss:  tensor(24096.6797)
Iteration: 8600        Total Loss: tensor(589577.3125)
IC Loss:  tensor(0.0057)        BC Loss:  tensor(6.0510e-11)   NS PDE Loss:  tensor(0.0035)    NS Div Free
Loss:  tensor(1.0392e-22)       Mv Bdry Loss:  tensor(328.7466)
Iteration: 8800        Total Loss: tensor(475057.6875)
IC Loss:  tensor(0.0047)        BC Loss:  tensor(4.9041e-11)   NS PDE Loss:  tensor(0.0026)    NS Div Free
Loss:  tensor(5.0713e-22)       Mv Bdry Loss:  tensor(171.7894)
Iteration: 9000        Total Loss: tensor(436351.7812)
IC Loss:  tensor(0.0043)        BC Loss:  tensor(4.9243e-06)   NS PDE Loss:  tensor(0.0016)    NS Div Free
Loss:  tensor(5.3710e-22)       Mv Bdry Loss:  tensor(162.4156)
Iteration: 9200        Total Loss: tensor(516956.7812)
IC Loss:  tensor(0.0050)        BC Loss:  tensor(2.0290e-08)   NS PDE Loss:  tensor(7.2136e-05)        NS
Div Free Loss:  tensor(4.4402e-22)    Mv Bdry Loss:  tensor(259.9726)
Iteration: 9400        Total Loss: tensor(835033.0625)
IC Loss:  tensor(0.0083)        BC Loss:  tensor(1.8729e-08)   NS PDE Loss:  tensor(0.0040)    NS Div Free
Loss:  tensor(1.6494e-23)       Mv Bdry Loss:  tensor(182.5188)
Iteration: 9600        Total Loss: tensor(437060.6250)
IC Loss:  tensor(0.0043)        BC Loss:  tensor(3.2932e-09)   NS PDE Loss:  tensor(0.0004)    NS Div Free
Loss:  tensor(8.1372e-23)       Mv Bdry Loss:  tensor(209.3811)
Iteration: 9800        Total Loss: tensor(416294.5938)
IC Loss:  tensor(0.0041)        BC Loss:  tensor(5.0350e-11)   NS PDE Loss:  tensor(0.0014)    NS Div Free
Loss:  tensor(1.8602e-23)       Mv Bdry Loss:  tensor(151.0459)
Iteration: 10000        Total Loss: tensor(5928554.5000)
IC Loss:  tensor(0.0591)        BC Loss:  tensor(1.3570e-09)   NS PDE Loss:  tensor(3.4302e-05)        NS
Div Free Loss:  tensor(1.2631e-23)    Mv Bdry Loss:  tensor(393.1684)
Iteration: 10200        Total Loss: tensor(391984.9375)
IC Loss:  tensor(0.0038)        BC Loss:  tensor(4.6913e-11)   NS PDE Loss:  tensor(0.0099)    NS Div Free
Loss:  tensor(1.3758e-23)       Mv Bdry Loss:  tensor(188.4688)
Iteration: 10400        Total Loss: tensor(319211.5000)
IC Loss:  tensor(0.0031)        BC Loss:  tensor(6.9752e-09)   NS PDE Loss:  tensor(0.0184)    NS Div Free
Loss:  tensor(1.2121e-22)       Mv Bdry Loss:  tensor(166.9544)
Iteration: 10600        Total Loss: tensor(255907.9062)
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IC Loss: tensor(0.0025)   BC Loss: tensor(0.0003)   NS PDE Loss: tensor(0.0224)   NS Div Free
Loss: tensor(1.1676e-23)   Mv Bdry Loss: tensor(162.4734)
Iteration: 10800   Total Loss: tensor(1132157.)
IC Loss: tensor(0.0111)   BC Loss: tensor(0.0016)   NS PDE Loss: tensor(40.2826)   NS Div Free
Loss: tensor(3.5403e-23)   Mv Bdry Loss: tensor(375.4497)
Iteration: 11000   Total Loss: tensor(77903344.)
IC Loss: tensor(0.7782)   BC Loss: tensor(2.2887e-09)   NS PDE Loss: tensor(1.5543e-07)   NS
Div Free Loss: tensor(2.4817e-22)   Mv Bdry Loss: tensor(1586.4258)
Iteration: 11200   Total Loss: tensor(3344647.)
IC Loss: tensor(0.0302)   BC Loss: tensor(1.5738e-09)   NS PDE Loss: tensor(4.2616e-10)   NS
Div Free Loss: tensor(3.9549e-22)   Mv Bdry Loss: tensor(6457.3564)
Iteration: 11400   Total Loss: tensor(2756119.5000)
IC Loss: tensor(0.0272)   BC Loss: tensor(1.4979e-09)   NS PDE Loss: tensor(1.1989e-09)   NS
Div Free Loss: tensor(2.4924e-22)   Mv Bdry Loss: tensor(754.3510)
Iteration: 11600   Total Loss: tensor(5461361.5000)
IC Loss: tensor(0.0532)   BC Loss: tensor(1.2727e-09)   NS PDE Loss: tensor(9.4333e-06)   NS
Div Free Loss: tensor(1.7373e-23)   Mv Bdry Loss: tensor(2730.1475)
Iteration: 11800   Total Loss: tensor(5958080.)
IC Loss: tensor(0.0595)   BC Loss: tensor(1.3301e-09)   NS PDE Loss: tensor(3.9654e-12)   NS
Div Free Loss: tensor(1.9094e-23)   Mv Bdry Loss: tensor(118.7642)
Iteration: 12000   Total Loss: tensor(710398.7500)
IC Loss: tensor(0.0069)   BC Loss: tensor(9.6786e-10)   NS PDE Loss: tensor(1.5146e-11)   NS
Div Free Loss: tensor(1.0673e-20)   Mv Bdry Loss: tensor(357.9692)
Iteration: 12200   Total Loss: tensor(1281864.6250)
IC Loss: tensor(0.0127)   BC Loss: tensor(1.3414e-08)   NS PDE Loss: tensor(1.3777e-11)   NS
Div Free Loss: tensor(1.0364e-20)   Mv Bdry Loss: tensor(219.6942)
Iteration: 12400   Total Loss: tensor(704458.)
IC Loss: tensor(0.0069)   BC Loss: tensor(2.9618e-07)   NS PDE Loss: tensor(1.7394e-12)   NS
Div Free Loss: tensor(1.3210e-21)   Mv Bdry Loss: tensor(255.6312)
Iteration: 12600   Total Loss: tensor(2.7929e+08)
IC Loss: tensor(2.7629)   BC Loss: tensor(7.5810e-05)   NS PDE Loss: tensor(5.5670e-07)   NS
Div Free Loss: tensor(7.4032e-23)   Mv Bdry Loss: tensor(60019.2188)
Iteration: 12800   Total Loss: tensor(6102829.)
IC Loss: tensor(0.0597)   BC Loss: tensor(7.9424e-05)   NS PDE Loss: tensor(5.5567e-10)   NS
Div Free Loss: tensor(1.6526e-22)   Mv Bdry Loss: tensor(2715.4980)
Iteration: 13000   Total Loss: tensor(1.5883e+08)
IC Loss: tensor(1.5881)   BC Loss: tensor(3.9770e-07)   NS PDE Loss: tensor(4.4207e-11)   NS
Div Free Loss: tensor(5.2515e-22)   Mv Bdry Loss: tensor(456.5518)
Iteration: 13200   Total Loss: tensor(3918105.2500)
IC Loss: tensor(0.0386)   BC Loss: tensor(3.7255e-10)   NS PDE Loss: tensor(1.9508e-07)   NS
Div Free Loss: tensor(2.4329e-22)   Mv Bdry Loss: tensor(1107.7864)
Iteration: 13400   Total Loss: tensor(964474.0625)

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IC Loss:  tensor(0.0092)          BC Loss:  tensor(3.9389e-09)    NS PDE Loss:  tensor(6.4580e-12)          NS
Div Free Loss:  tensor(3.8586e-21)      Mv Bdry Loss:  tensor(879.8117)
Iteration: 13600        Total Loss: tensor(579073.3750)
IC Loss:  tensor(0.0056)          BC Loss:  tensor(1.1742e-09)    NS PDE Loss:  tensor(4.5466e-13)          NS
Div Free Loss:  tensor(2.0233e-22)      Mv Bdry Loss:  tensor(299.9018)
Iteration: 13800        Total Loss: tensor(5725586.)
IC Loss:  tensor(0.0565)          BC Loss:  tensor(7.0267e-10)    NS PDE Loss:  tensor(2.9244e-07)          NS
Div Free Loss:  tensor(8.4337e-23)      Mv Bdry Loss:  tensor(1562.7019)
Iteration: 14000        Total Loss: tensor(1.4493e+08)
IC Loss:  tensor(1.4491)          BC Loss:  tensor(6.2947e-10)    NS PDE Loss:  tensor(1.2298e-06)          NS
Div Free Loss:  tensor(1.6598e-22)      Mv Bdry Loss:  tensor(399.0949)
Iteration: 14200        Total Loss: tensor(1144288.6250)
IC Loss:  tensor(0.0113)          BC Loss:  tensor(3.8429e-10)    NS PDE Loss:  tensor(1.0247e-11)          NS
Div Free Loss:  tensor(1.8199e-21)      Mv Bdry Loss:  tensor(244.4352)
Iteration: 14400        Total Loss: tensor(758498.8125)
IC Loss:  tensor(0.0075)          BC Loss:  tensor(3.2378e-10)    NS PDE Loss:  tensor(2.2514e-12)          NS
Div Free Loss:  tensor(8.2671e-22)      Mv Bdry Loss:  tensor(109.7283)
Iteration: 14600        Total Loss: tensor(68221312.)
IC Loss:  tensor(0.6821)          BC Loss:  tensor(3.2001e-10)    NS PDE Loss:  tensor(3.9141e-11)          NS
Div Free Loss:  tensor(1.1580e-22)      Mv Bdry Loss:  tensor(231.2181)
Iteration: 14800        Total Loss: tensor(1.5122e+08)
IC Loss:  tensor(1.5114)          BC Loss:  tensor(3.8979e-10)    NS PDE Loss:  tensor(5.8840e-12)          NS
Div Free Loss:  tensor(1.5372e-22)      Mv Bdry Loss:  tensor(1629.9607)
Iteration: 15000        Total Loss: tensor(16306072.)
IC Loss:  tensor(0.1630)          BC Loss:  tensor(3.4042e-10)    NS PDE Loss:  tensor(2.0813e-11)          NS
Div Free Loss:  tensor(2.6583e-21)      Mv Bdry Loss:  tensor(39.3140)
Iteration: 15200        Total Loss: tensor(1150970.5000)
IC Loss:  tensor(0.0114)          BC Loss:  tensor(3.2514e-10)    NS PDE Loss:  tensor(6.0099e-12)          NS
Div Free Loss:  tensor(3.1176e-21)      Mv Bdry Loss:  tensor(268.0591)
Iteration: 15400        Total Loss: tensor(4144857.7500)
IC Loss:  tensor(0.0413)          BC Loss:  tensor(7.2505e-07)    NS PDE Loss:  tensor(1.5613e-09)          NS
Div Free Loss:  tensor(1.0083e-21)      Mv Bdry Loss:  tensor(269.8501)
Iteration: 15600        Total Loss: tensor(3732413.5000)
IC Loss:  tensor(0.0373)          BC Loss:  tensor(0.0128)        NS PDE Loss:  tensor(0.0109)    NS Div Free
Loss:  tensor(1.7018e-20)      Mv Bdry Loss:  tensor(144.5211)
Iteration: 15800        Total Loss: tensor(9692834.)
IC Loss:  tensor(0.0950)          BC Loss:  tensor(1.1483e-05)    NS PDE Loss:  tensor(35.2824)    NS Div Free
Loss:  tensor(2.7241e-22)      Mv Bdry Loss:  tensor(3927.0386)
Iteration: 16000        Total Loss: tensor(1369996.2500)
IC Loss:  tensor(0.0133)          BC Loss:  tensor(5.7905e-10)    NS PDE Loss:  tensor(47.4154)    NS Div Free
Loss:  tensor(3.2577e-22)      Mv Bdry Loss:  tensor(728.1934)
Iteration: 16200        Total Loss: tensor(1.3902e+08)
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IC Loss:  tensor(1.3718)        BC Loss:  tensor(5.6489e-10)    NS PDE Loss:  tensor(50.8748)   NS Div Free
Loss:  tensor(2.5717e-24)       Mv Bdry Loss:  tensor(36766.9453)
Iteration: 16400        Total Loss: tensor(1.4951e+08)
IC Loss:  tensor(1.4915)        BC Loss:  tensor(8.4941e-10)    NS PDE Loss:  tensor(57.1313)   NS Div Free
Loss:  tensor(3.6810e-26)       Mv Bdry Loss:  tensor(7081.4951)
Iteration: 16600        Total Loss: tensor(70384800.)
IC Loss:  tensor(0.6976)        BC Loss:  tensor(1.2799e-09)    NS PDE Loss:  tensor(59.7706)   NS Div Free
Loss:  tensor(7.3730e-25)       Mv Bdry Loss:  tensor(12553.6152)
Iteration: 16800        Total Loss: tensor(3889248.)
IC Loss:  tensor(0.0350)        BC Loss:  tensor(9.4884e-10)    NS PDE Loss:  tensor(73.4952)   NS Div Free
Loss:  tensor(5.2219e-23)       Mv Bdry Loss:  tensor(7695.1172)
Iteration: 17000        Total Loss: tensor(2904140.2500)
IC Loss:  tensor(0.0287)        BC Loss:  tensor(9.8859e-10)    NS PDE Loss:  tensor(38.7272)   NS Div Free
Loss:  tensor(3.2372e-21)       Mv Bdry Loss:  tensor(584.5311)
Iteration: 17200        Total Loss: tensor(85969552.)
IC Loss:  tensor(0.8576)        BC Loss:  tensor(8.7303e-10)    NS PDE Loss:  tensor(48.3046)   NS Div Free
Loss:  tensor(5.1132e-23)       Mv Bdry Loss:  tensor(4280.3887)
Iteration: 17400        Total Loss: tensor(13290507.)
IC Loss:  tensor(0.1311)        BC Loss:  tensor(6.4037e-10)    NS PDE Loss:  tensor(37.2999)   NS Div Free
Loss:  tensor(2.0378e-22)       Mv Bdry Loss:  tensor(3587.0508)
Iteration: 17600        Total Loss: tensor(3524852.2500)
IC Loss:  tensor(0.0329)        BC Loss:  tensor(6.9399e-10)    NS PDE Loss:  tensor(37.0315)   NS Div Free
Loss:  tensor(3.1291e-24)       Mv Bdry Loss:  tensor(4600.4814)
Iteration: 17800        Total Loss: tensor(4.0434e+08)
IC Loss:  tensor(4.0430)        BC Loss:  tensor(6.0378e-10)    NS PDE Loss:  tensor(35.3416)   NS Div Free
Loss:  tensor(4.4010e-22)       Mv Bdry Loss:  tensor(800.8406)
Iteration: 18000        Total Loss: tensor(1.1516e+08)
IC Loss:  tensor(1.1504)        BC Loss:  tensor(5.7010e-10)    NS PDE Loss:  tensor(49.2669)   NS Div Free
Loss:  tensor(1.7713e-23)       Mv Bdry Loss:  tensor(2318.5608)
Iteration: 18200        Total Loss: tensor(1682786.)
IC Loss:  tensor(0.0145)        BC Loss:  tensor(5.7428e-10)    NS PDE Loss:  tensor(42.3284)   NS Div Free
Loss:  tensor(4.0511e-22)       Mv Bdry Loss:  tensor(4641.7646)
Iteration: 18400        Total Loss: tensor(1766310.7500)
IC Loss:  tensor(0.0166)        BC Loss:  tensor(5.4777e-10)    NS PDE Loss:  tensor(38.9421)   NS Div Free
Loss:  tensor(2.9335e-24)       Mv Bdry Loss:  tensor(2217.6174)
Iteration: 18600        Total Loss: tensor(1.8555e+08)
IC Loss:  tensor(1.8539)        BC Loss:  tensor(9.5975e-09)    NS PDE Loss:  tensor(41.7662)   NS Div Free
Loss:  tensor(3.6638e-23)       Mv Bdry Loss:  tensor(3313.8481)
Iteration: 18800        Total Loss: tensor(1.6909e+08)
IC Loss:  tensor(1.6903)        BC Loss:  tensor(6.8037e-10)    NS PDE Loss:  tensor(32.7311)   NS Div Free
Loss:  tensor(3.8237e-22)       Mv Bdry Loss:  tensor(1094.7231)
Iteration: 19000        Total Loss: tensor(1500741.8750)
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IC Loss: tensor(0.0150)   BC Loss: tensor(7.1523e-10)   NS PDE Loss: tensor(29.4376)   NS Div Free
Loss: tensor(4.0157e-24)   Mv Bdry Loss: tensor(84.0729)
Iteration: 19200   Total Loss: tensor(1132934.6250)
IC Loss: tensor(0.0112)   BC Loss: tensor(1.4520e-09)   NS PDE Loss: tensor(6.9205)   NS Div Free
Loss: tensor(8.4401e-24)   Mv Bdry Loss: tensor(194.6248)
Iteration: 19400   Total Loss: tensor(1716275.)
IC Loss: tensor(0.0171)   BC Loss: tensor(0.0031)   NS PDE Loss: tensor(14.8756)   NS Div Free
Loss: tensor(3.7124e-22)   Mv Bdry Loss: tensor(183.6781)
Iteration: 19600   Total Loss: tensor(883045.7500)
IC Loss: tensor(0.0088)   BC Loss: tensor(1.9387e-08)   NS PDE Loss: tensor(9.4368)   NS Div Free
Loss: tensor(1.3325e-20)   Mv Bdry Loss: tensor(138.0521)
Iteration: 19800   Total Loss: tensor(779583.1250)
IC Loss: tensor(0.0077)   BC Loss: tensor(8.4155e-07)   NS PDE Loss: tensor(4.5491)   NS Div Free
Loss: tensor(5.1651e-21)   Mv Bdry Loss: tensor(96.0889)
Iteration: 20000   Total Loss: tensor(837969.6875)
IC Loss: tensor(0.0083)   BC Loss: tensor(0.0048)   NS PDE Loss: tensor(3.8623)   NS Div Free
Loss: tensor(1.0955e-21)   Mv Bdry Loss: tensor(83.0916)
Current Final Time: 1.0 Current Learning Rate: 0.005
Iteration: 200 Total Loss: tensor(626801.0625)
IC Loss: tensor(0.0062)   BC Loss: tensor(0.0002)   NS PDE Loss: tensor(6.3300)   NS Div Free
Loss: tensor(1.5816e-19)   Mv Bdry Loss: tensor(59.6196)
Iteration: 400 Total Loss: tensor(588710.)
IC Loss: tensor(0.0059)   BC Loss: tensor(1.3215e-06)   NS PDE Loss: tensor(5.7994)   NS Div Free
Loss: tensor(6.6421e-20)   Mv Bdry Loss: tensor(52.1781)
Iteration: 600 Total Loss: tensor(30553256.)
IC Loss: tensor(0.2987)   BC Loss: tensor(8.6425e-07)   NS PDE Loss: tensor(9.5923)   NS Div Free
Loss: tensor(4.4323e-20)   Mv Bdry Loss: tensor(13606.4512)
Iteration: 800 Total Loss: tensor(6030161.5000)
IC Loss: tensor(0.0600)   BC Loss: tensor(7.9576e-07)   NS PDE Loss: tensor(33.0317)   NS Div Free
Loss: tensor(5.7413e-21)   Mv Bdry Loss: tensor(512.3988)
Iteration: 1000   Total Loss: tensor(2249624.2500)
IC Loss: tensor(0.0223)   BC Loss: tensor(8.1557e-07)   NS PDE Loss: tensor(0.0141)   NS Div Free
Loss: tensor(5.5494e-18)   Mv Bdry Loss: tensor(301.8855)
Iteration: 1200   Total Loss: tensor(1882800.)
IC Loss: tensor(0.0185)   BC Loss: tensor(1.0756e-06)   NS PDE Loss: tensor(45.9843)   NS Div Free
Loss: tensor(8.3873e-19)   Mv Bdry Loss: tensor(673.0407)
Iteration: 1400   Total Loss: tensor(1.5188e+08)
IC Loss: tensor(1.5187)   BC Loss: tensor(0.0008)   NS PDE Loss: tensor(0.1527)   NS Div Free
Loss: tensor(5.0199e-18)   Mv Bdry Loss: tensor(242.3644)
Iteration: 1600   Total Loss: tensor(7227486.5000)
IC Loss: tensor(0.0717)   BC Loss: tensor(4.3623e-05)   NS PDE Loss: tensor(67.5534)   NS Div Free
Loss: tensor(2.9233e-20)   Mv Bdry Loss: tensor(1054.9741)

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Iteration: 1800        Total Loss: tensor(6847537.)
IC Loss:  tensor(0.0676)        BC Loss:  tensor(7.1598e-07)    NS PDE Loss:  tensor(9.6335e-08)        NS
Div Free Loss:  tensor(1.4829e-18)      Mv Bdry Loss:  tensor(1742.8887)
Iteration: 2000        Total Loss: tensor(8984077.)
IC Loss:  tensor(0.0894)        BC Loss:  tensor(6.9919e-07)    NS PDE Loss:  tensor(2.4954e-07)        NS
Div Free Loss:  tensor(8.5533e-19)      Mv Bdry Loss:  tensor(874.0119)
Iteration: 2200        Total Loss: tensor(4931803.5000)
IC Loss:  tensor(0.0489)        BC Loss:  tensor(1.2924e-06)    NS PDE Loss:  tensor(16.3155)   NS Div Free
Loss:  tensor(5.1205e-18)       Mv Bdry Loss:  tensor(853.9463)
Iteration: 2400        Total Loss: tensor(69801776.)
IC Loss:  tensor(0.6922)        BC Loss:  tensor(7.2450e-07)    NS PDE Loss:  tensor(1.4789e-05)        NS
Div Free Loss:  tensor(1.5016e-17)      Mv Bdry Loss:  tensor(11642.1250)
Iteration: 2600        Total Loss: tensor(3807911.7500)
IC Loss:  tensor(0.0379)        BC Loss:  tensor(7.9877e-07)    NS PDE Loss:  tensor(50.6183)   NS Div Free
Loss:  tensor(4.5684e-18)       Mv Bdry Loss:  tensor(455.3349)
Iteration: 2800        Total Loss: tensor(54350944.)
IC Loss:  tensor(0.5428)        BC Loss:  tensor(8.5274e-07)    NS PDE Loss:  tensor(3.3849e-06)        NS
Div Free Loss:  tensor(9.1438e-18)      Mv Bdry Loss:  tensor(1510.4250)
Iteration: 3000        Total Loss: tensor(3321702.7500)
IC Loss:  tensor(0.0329)        BC Loss:  tensor(9.8193e-07)    NS PDE Loss:  tensor(31.1131)   NS Div Free
Loss:  tensor(2.7810e-16)       Mv Bdry Loss:  tensor(702.5927)
Iteration: 3200        Total Loss: tensor(3041524.2500)
IC Loss:  tensor(0.0302)        BC Loss:  tensor(2.3036e-06)    NS PDE Loss:  tensor(23.8882)   NS Div Free
Loss:  tensor(4.4685e-15)       Mv Bdry Loss:  tensor(489.9521)
Iteration: 3400        Total Loss: tensor(2802208.5000)
IC Loss:  tensor(0.0278)        BC Loss:  tensor(0.0003)        NS PDE Loss:  tensor(20.9324)   NS Div Free
Loss:  tensor(5.5999e-11)       Mv Bdry Loss:  tensor(363.9187)
Iteration: 3600        Total Loss: tensor(2734741.7500)
IC Loss:  tensor(0.0259)        BC Loss:  tensor(0.0037)        NS PDE Loss:  tensor(68.2710)   NS Div Free
Loss:  tensor(2.7262e-15)       Mv Bdry Loss:  tensor(2969.2168)
Iteration: 3800        Total Loss: tensor(85097840.)
IC Loss:  tensor(0.8502)        BC Loss:  tensor(0.0028)        NS PDE Loss:  tensor(0.0033)    NS Div Free
Loss:  tensor(1.2028e-13)       Mv Bdry Loss:  tensor(1644.4835)
Iteration: 4000        Total Loss: tensor(10910673.)
IC Loss:  tensor(0.1086)        BC Loss:  tensor(0.0020)        NS PDE Loss:  tensor(3.7911)    NS Div Free
Loss:  tensor(3.9890e-15)       Mv Bdry Loss:  tensor(1022.5123)
Iteration: 4200        Total Loss: tensor(2672228.2500)
IC Loss:  tensor(0.0265)        BC Loss:  tensor(0.0007)        NS PDE Loss:  tensor(0.0067)    NS Div Free
Loss:  tensor(9.8085e-15)       Mv Bdry Loss:  tensor(394.2960)
Iteration: 4400        Total Loss: tensor(1263062.8750)
IC Loss:  tensor(0.0125)        BC Loss:  tensor(3.9166e-05)    NS PDE Loss:  tensor(0.6466)    NS Div Free
Loss:  tensor(9.9962e-18)       Mv Bdry Loss:  tensor(216.9180)
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Iteration: 4600        Total Loss: tensor(1204360.1250)
IC Loss:  tensor(0.0119)        BC Loss:  tensor(0.0002)        NS PDE Loss:  tensor(0.7620)    NS Div Free
Loss:  tensor(2.6924e-16)       Mv Bdry Loss:  tensor(329.6612)
Iteration: 4800        Total Loss: tensor(2824533.5000)
IC Loss:  tensor(0.0282)        BC Loss:  tensor(2.6999e-05)    NS PDE Loss:  tensor(3.4428)    NS Div Free
Loss:  tensor(5.2994e-17)       Mv Bdry Loss:  tensor(162.6494)
Iteration: 5000        Total Loss: tensor(2359232.7500)
IC Loss:  tensor(0.0224)        BC Loss:  tensor(1.9840e-05)    NS PDE Loss:  tensor(67.8188)   NS Div Free
Loss:  tensor(4.2144e-18)       Mv Bdry Loss:  tensor(2345.5732)
Iteration: 5200        Total Loss: tensor(1694300.5000)
IC Loss:  tensor(0.0164)        BC Loss:  tensor(6.9755e-07)    NS PDE Loss:  tensor(35.1494)   NS Div Free
Loss:  tensor(3.2284e-14)       Mv Bdry Loss:  tensor(1116.7495)
Iteration: 5400        Total Loss: tensor(1321214.7500)
IC Loss:  tensor(0.0128)        BC Loss:  tensor(1.1186e-06)    NS PDE Loss:  tensor(2.7810)    NS Div Free
Loss:  tensor(4.2757e-13)       Mv Bdry Loss:  tensor(761.1196)
Iteration: 5600        Total Loss: tensor(833546.)
IC Loss:  tensor(0.0082)        BC Loss:  tensor(8.3127e-06)    NS PDE Loss:  tensor(0.0005)    NS Div Free
Loss:  tensor(5.1882e-15)       Mv Bdry Loss:  tensor(223.9970)
Iteration: 5800        Total Loss: tensor(683034.7500)
IC Loss:  tensor(0.0067)        BC Loss:  tensor(6.7493e-06)    NS PDE Loss:  tensor(0.0006)    NS Div Free
Loss:  tensor(5.7730e-15)       Mv Bdry Loss:  tensor(169.3344)
Iteration: 6000        Total Loss: tensor(503583.3438)
IC Loss:  tensor(0.0050)        BC Loss:  tensor(3.7196e-06)    NS PDE Loss:  tensor(0.0089)    NS Div Free
Loss:  tensor(1.5176e-14)       Mv Bdry Loss:  tensor(146.2501)
Iteration: 6200        Total Loss: tensor(586829.4375)
IC Loss:  tensor(0.0058)        BC Loss:  tensor(3.0745e-06)    NS PDE Loss:  tensor(1.4015)    NS Div Free
Loss:  tensor(1.3848e-15)       Mv Bdry Loss:  tensor(116.7258)
Iteration: 6400        Total Loss: tensor(1018737.1250)
IC Loss:  tensor(0.0101)        BC Loss:  tensor(0.0036)        NS PDE Loss:  tensor(0.1695)    NS Div Free
Loss:  tensor(1.4014e-16)       Mv Bdry Loss:  tensor(101.5455)
Iteration: 6600        Total Loss: tensor(378510.5625)
IC Loss:  tensor(0.0037)        BC Loss:  tensor(0.0001)        NS PDE Loss:  tensor(0.9354)    NS Div Free
Loss:  tensor(6.4005e-16)       Mv Bdry Loss:  tensor(95.0937)
Iteration: 6800        Total Loss: tensor(304115.2500)
IC Loss:  tensor(0.0030)        BC Loss:  tensor(5.3319e-05)    NS PDE Loss:  tensor(3.8415)    NS Div Free
Loss:  tensor(1.4789e-15)       Mv Bdry Loss:  tensor(74.9902)
Iteration: 7000        Total Loss: tensor(1101527.)
IC Loss:  tensor(0.0109)        BC Loss:  tensor(1.2513e-07)    NS PDE Loss:  tensor(8.6541)    NS Div Free
Loss:  tensor(3.7525e-17)       Mv Bdry Loss:  tensor(313.3622)
Iteration: 7200        Total Loss: tensor(257871.2188)
IC Loss:  tensor(0.0025)        BC Loss:  tensor(1.1600e-07)    NS PDE Loss:  tensor(2.2972)    NS Div Free
Loss:  tensor(8.1822e-16)       Mv Bdry Loss:  tensor(97.7477)
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Iteration: 7400        Total Loss: tensor(237702.0625)
IC Loss:  tensor(0.0024)        BC Loss:  tensor(9.5431e-07)    NS PDE Loss:  tensor(7.3530e-07)        NS
Div Free Loss:  tensor(4.1573e-16)      Mv Bdry Loss:  tensor(50.5620)
Iteration: 7600        Total Loss: tensor(267778.5938)
IC Loss:  tensor(0.0026)        BC Loss:  tensor(1.0547e-06)    NS PDE Loss:  tensor(8.5016e-07)        NS
Div Free Loss:  tensor(5.5510e-16)      Mv Bdry Loss:  tensor(64.2679)
Iteration: 7800        Total Loss: tensor(308926.4688)
IC Loss:  tensor(0.0030)        BC Loss:  tensor(6.3180e-07)    NS PDE Loss:  tensor(0.0131)    NS Div Free
Loss:  tensor(1.5254e-16)       Mv Bdry Loss:  tensor(154.8364)
Iteration: 8000        Total Loss: tensor(502007.5312)
IC Loss:  tensor(0.0050)        BC Loss:  tensor(4.5710e-07)    NS PDE Loss:  tensor(0.0232)    NS Div Free
Loss:  tensor(5.1418e-16)       Mv Bdry Loss:  tensor(81.6882)
Iteration: 8200        Total Loss: tensor(3690999.)
IC Loss:  tensor(0.0364)        BC Loss:  tensor(4.3355e-07)    NS PDE Loss:  tensor(1.7397e-07)        NS
Div Free Loss:  tensor(9.4784e-17)      Mv Bdry Loss:  tensor(1111.7473)
Iteration: 8400        Total Loss: tensor(3898209.2500)
IC Loss:  tensor(0.0389)        BC Loss:  tensor(2.5490e-07)    NS PDE Loss:  tensor(5.7531)    NS Div Free
Loss:  tensor(1.5573e-17)       Mv Bdry Loss:  tensor(124.6457)
Iteration: 8600        Total Loss: tensor(10672124.)
IC Loss:  tensor(0.0537)        BC Loss:  tensor(2.1098e-07)    NS PDE Loss:  tensor(75.6812)   NS Div Free
Loss:  tensor(2.3607e-17)       Mv Bdry Loss:  tensor(106027.1016)
Iteration: 8800        Total Loss: tensor(1.2665e+08)
IC Loss:  tensor(1.2437)        BC Loss:  tensor(4.9335e-07)    NS PDE Loss:  tensor(80.3448)   NS Div Free
Loss:  tensor(3.4104e-17)       Mv Bdry Loss:  tensor(45458.9141)
Iteration: 9000        Total Loss: tensor(2.4301e+08)
IC Loss:  tensor(1.8276)        BC Loss:  tensor(1.9053e-07)    NS PDE Loss:  tensor(76.3333)   NS Div Free
Loss:  tensor(1.3598e-18)       Mv Bdry Loss:  tensor(1204955.2500)
Iteration: 9200        Total Loss: tensor(5087440.)
IC Loss:  tensor(0.0406)        BC Loss:  tensor(1.7809e-08)    NS PDE Loss:  tensor(74.5122)   NS Div Free
Loss:  tensor(2.8596e-18)       Mv Bdry Loss:  tensor(20627.7070)
Iteration: 9400        Total Loss: tensor(1.1909e+08)
IC Loss:  tensor(1.1728)        BC Loss:  tensor(1.8249e-08)    NS PDE Loss:  tensor(56.3004)   NS Div Free
Loss:  tensor(7.4382e-17)       Mv Bdry Loss:  tensor(36367.4492)
Iteration: 9600        Total Loss: tensor(1703051.6250)
IC Loss:  tensor(0.0082)        BC Loss:  tensor(1.0091e-08)    NS PDE Loss:  tensor(62.4082)   NS Div Free
Loss:  tensor(5.2705e-19)       Mv Bdry Loss:  tensor(17729.1641)
Iteration: 9800        Total Loss: tensor(8236014.)
IC Loss:  tensor(0.0667)        BC Loss:  tensor(9.9233e-09)    NS PDE Loss:  tensor(65.1398)   NS Div Free
Loss:  tensor(3.9417e-17)       Mv Bdry Loss:  tensor(31305.5898)
Iteration: 10000       Total Loss: tensor(2404211.5000)
IC Loss:  tensor(0.0098)        BC Loss:  tensor(1.0897e-08)    NS PDE Loss:  tensor(34.2164)   NS Div Free
Loss:  tensor(9.1851e-17)       Mv Bdry Loss:  tensor(28501.0879)
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Iteration: 10200      Total Loss: tensor(1276939.3750)
IC Loss: tensor(0.0093)        BC Loss: tensor(3.0283e-08)    NS PDE Loss: tensor(42.1881)    NS Div Free
Loss: tensor(1.7209e-16)       Mv Bdry Loss: tensor(7002.7329)
Iteration: 10400      Total Loss: tensor(1216119.2500)
IC Loss: tensor(0.0098)        BC Loss: tensor(7.8126e-08)    NS PDE Loss: tensor(45.9754)    NS Div Free
Loss: tensor(1.3017e-16)       Mv Bdry Loss: tensor(4651.6274)
Iteration: 10600      Total Loss: tensor(409727.1875)
IC Loss: tensor(0.0035)        BC Loss: tensor(2.5461e-07)    NS PDE Loss: tensor(21.5956)    NS Div Free
Loss: tensor(4.0133e-15)       Mv Bdry Loss: tensor(1250.6255)
Iteration: 10800      Total Loss: tensor(542317.3125)
IC Loss: tensor(0.0049)        BC Loss: tensor(1.5407e-06)    NS PDE Loss: tensor(18.2427)    NS Div Free
Loss: tensor(7.4351e-15)       Mv Bdry Loss: tensor(1041.1034)
Iteration: 11000      Total Loss: tensor(1926920.7500)
IC Loss: tensor(0.0095)        BC Loss: tensor(2.0037e-06)    NS PDE Loss: tensor(64.0638)    NS Div Free
Loss: tensor(3.0486e-16)       Mv Bdry Loss: tensor(19632.1348)
Iteration: 11200      Total Loss: tensor(2828503.7500)
IC Loss: tensor(0.0100)        BC Loss: tensor(1.8888e-06)    NS PDE Loss: tensor(77.9764)    NS Div Free
Loss: tensor(8.3466e-19)       Mv Bdry Loss: tensor(36644.4805)
Iteration: 11400      Total Loss: tensor(441638.4062)
IC Loss: tensor(0.0041)        BC Loss: tensor(7.0332e-07)    NS PDE Loss: tensor(9.1042e-06)        NS
Div Free Loss: tensor(1.6325e-15)     Mv Bdry Loss: tensor(642.9949)
Iteration: 11600      Total Loss: tensor(12533532.)
IC Loss: tensor(0.1141)        BC Loss: tensor(1.1782e-06)    NS PDE Loss: tensor(82.1564)    NS Div Free
Loss: tensor(9.8501e-17)       Mv Bdry Loss: tensor(22439.4727)
Iteration: 11800      Total Loss: tensor(27908278.)
IC Loss: tensor(0.2714)        BC Loss: tensor(1.6866e-06)    NS PDE Loss: tensor(79.6756)    NS Div Free
Loss: tensor(1.2064e-16)       Mv Bdry Loss: tensor(15365.7031)
Iteration: 12000      Total Loss: tensor(7287136.5000)
IC Loss: tensor(0.0693)        BC Loss: tensor(1.5756e-06)    NS PDE Loss: tensor(70.0035)    NS Div Free
Loss: tensor(3.2120e-15)       Mv Bdry Loss: tensor(7139.6372)
Iteration: 12200      Total Loss: tensor(2728153.5000)
IC Loss: tensor(0.0236)        BC Loss: tensor(7.7144e-07)    NS PDE Loss: tensor(70.8601)    NS Div Free
Loss: tensor(3.6784e-16)       Mv Bdry Loss: tensor(7423.8555)
Iteration: 12400      Total Loss: tensor(2208629.2500)
IC Loss: tensor(0.0219)        BC Loss: tensor(1.3717e-07)    NS PDE Loss: tensor(0.0986)    NS Div Free
Loss: tensor(1.3797e-16)       Mv Bdry Loss: tensor(428.9189)
Iteration: 12600      Total Loss: tensor(1937244.8750)
IC Loss: tensor(0.0191)        BC Loss: tensor(5.1849e-08)    NS PDE Loss: tensor(0.0202)    NS Div Free
Loss: tensor(1.9149e-16)       Mv Bdry Loss: tensor(495.9759)
Iteration: 12800      Total Loss: tensor(1784118.2500)
IC Loss: tensor(0.0176)        BC Loss: tensor(1.1283e-08)    NS PDE Loss: tensor(0.0322)    NS Div Free
Loss: tensor(8.7031e-18)       Mv Bdry Loss: tensor(438.3237)
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Iteration: 13000      Total Loss: tensor(1619001.3750)
IC Loss:  tensor(0.0158)      BC Loss:  tensor(1.6657e-08)   NS PDE Loss:  tensor(0.0431)   NS Div Free
Loss:  tensor(4.1043e-16)     Mv Bdry Loss:  tensor(841.3201)
Iteration: 13200      Total Loss: tensor(1915345.2500)
IC Loss:  tensor(0.0176)      BC Loss:  tensor(1.4595e-08)   NS PDE Loss:  tensor(0.0006)   NS Div Free
Loss:  tensor(4.1305e-18)     Mv Bdry Loss:  tensor(3022.6782)
Iteration: 13400      Total Loss: tensor(1429103.1250)
IC Loss:  tensor(0.0136)      BC Loss:  tensor(2.9601e-08)   NS PDE Loss:  tensor(0.0045)   NS Div Free
Loss:  tensor(1.1551e-16)     Mv Bdry Loss:  tensor(1380.7760)
Iteration: 13600      Total Loss: tensor(1452922.7500)
IC Loss:  tensor(0.0141)      BC Loss:  tensor(7.6104e-09)   NS PDE Loss:  tensor(3.9634e-06)       NS
Div Free Loss:  tensor(1.3601e-17)    Mv Bdry Loss:  tensor(884.1157)
Iteration: 13800      Total Loss: tensor(1074767.5000)
IC Loss:  tensor(0.0072)      BC Loss:  tensor(1.6942e-07)   NS PDE Loss:  tensor(1.3155)   NS Div Free
Loss:  tensor(5.6801e-15)     Mv Bdry Loss:  tensor(7088.9922)
Iteration: 14000      Total Loss: tensor(90266680.)
IC Loss:  tensor(0.9001)      BC Loss:  tensor(1.5486e-07)   NS PDE Loss:  tensor(9.8711)   NS Div Free
Loss:  tensor(8.4445e-15)     Mv Bdry Loss:  tensor(5092.1963)
Iteration: 14200      Total Loss: tensor(7127560.)
IC Loss:  tensor(0.0629)      BC Loss:  tensor(3.4146e-06)   NS PDE Loss:  tensor(78.0354)   NS Div Free
Loss:  tensor(9.3241e-16)     Mv Bdry Loss:  tensor(16650.3828)
Iteration: 14400      Total Loss: tensor(23921994.)
IC Loss:  tensor(0.2377)      BC Loss:  tensor(0.0021)       NS PDE Loss:  tensor(4.2927e-05)       NS
Div Free Loss:  tensor(1.6440e-15)    Mv Bdry Loss:  tensor(3040.2358)
Iteration: 14600      Total Loss: tensor(4.8554e+08)
IC Loss:  tensor(4.8541)      BC Loss:  tensor(7.6843e-06)   NS PDE Loss:  tensor(4.9184)   NS Div Free
Loss:  tensor(2.3676e-17)     Mv Bdry Loss:  tensor(2529.7217)
Iteration: 14800      Total Loss: tensor(3777911.2500)
IC Loss:  tensor(0.0357)      BC Loss:  tensor(3.3391e-05)   NS PDE Loss:  tensor(0.0832)   NS Div Free
Loss:  tensor(2.8940e-14)     Mv Bdry Loss:  tensor(4233.5693)
Iteration: 15000      Total Loss: tensor(11122647.)
IC Loss:  tensor(0.1046)      BC Loss:  tensor(6.8246e-05)   NS PDE Loss:  tensor(61.2835)   NS Div Free
Loss:  tensor(1.3089e-15)     Mv Bdry Loss:  tensor(13278.7871)
Iteration: 15200      Total Loss: tensor(48302844.)
IC Loss:  tensor(0.4788)      BC Loss:  tensor(9.2000e-06)   NS PDE Loss:  tensor(0.0040)   NS Div Free
Loss:  tensor(1.1838e-14)     Mv Bdry Loss:  tensor(8464.1504)
Iteration: 15400      Total Loss: tensor(3221723.)
IC Loss:  tensor(0.0315)      BC Loss:  tensor(7.3524e-05)   NS PDE Loss:  tensor(0.6262)   NS Div Free
Loss:  tensor(7.0760e-16)     Mv Bdry Loss:  tensor(1384.5203)
Iteration: 15600      Total Loss: tensor(5530307.)
IC Loss:  tensor(0.0544)      BC Loss:  tensor(6.0904e-05)   NS PDE Loss:  tensor(0.3371)   NS Div Free
Loss:  tensor(1.7106e-17)     Mv Bdry Loss:  tensor(1774.3616)
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Iteration: 15800      Total Loss: tensor(7772922.5000)
IC Loss: tensor(0.0767)       BC Loss: tensor(6.2891e-05)   NS PDE Loss: tensor(0.0004)   NS Div Free
Loss: tensor(8.2270e-15)      Mv Bdry Loss: tensor(2103.2148)
Iteration: 16000      Total Loss: tensor(2.0810e+08)
IC Loss: tensor(2.0801)       BC Loss: tensor(6.4746e-05)   NS PDE Loss: tensor(8.4072e-06)       NS
Div Free Loss: tensor(2.5306e-17)   Mv Bdry Loss: tensor(1825.8503)
Iteration: 16200      Total Loss: tensor(2276219.7500)
IC Loss: tensor(0.0223)       BC Loss: tensor(3.5788e-05)   NS PDE Loss: tensor(7.2728)   NS Div Free
Loss: tensor(1.4149e-17)      Mv Bdry Loss: tensor(968.7408)
Iteration: 16400      Total Loss: tensor(2121614.5000)
IC Loss: tensor(0.0208)       BC Loss: tensor(4.9482e-05)   NS PDE Loss: tensor(1.2151)   NS Div Free
Loss: tensor(4.7909e-15)      Mv Bdry Loss: tensor(864.5436)
Iteration: 16600      Total Loss: tensor(2636794.7500)
IC Loss: tensor(0.0259)       BC Loss: tensor(2.6356e-05)   NS PDE Loss: tensor(3.0746)   NS Div Free
Loss: tensor(2.6712e-17)      Mv Bdry Loss: tensor(891.1520)
Iteration: 16800      Total Loss: tensor(1315899.)
IC Loss: tensor(0.0125)       BC Loss: tensor(4.5807e-06)   NS PDE Loss: tensor(0.5582)   NS Div Free
Loss: tensor(1.5124e-17)      Mv Bdry Loss: tensor(1354.1085)
Iteration: 17000      Total Loss: tensor(13978926.)
IC Loss: tensor(0.1379)       BC Loss: tensor(4.8042e-06)   NS PDE Loss: tensor(51.2974)   NS Div Free
Loss: tensor(1.7248e-19)      Mv Bdry Loss: tensor(3828.1846)
Iteration: 17200      Total Loss: tensor(1512145.2500)
IC Loss: tensor(0.0149)       BC Loss: tensor(9.4108e-06)   NS PDE Loss: tensor(0.0822)   NS Div Free
Loss: tensor(5.5147e-18)      Mv Bdry Loss: tensor(487.3941)
Iteration: 17400      Total Loss: tensor(1297638.6250)
IC Loss: tensor(0.0120)       BC Loss: tensor(8.2817e-06)   NS PDE Loss: tensor(2.0706)   NS Div Free
Loss: tensor(7.9438e-16)      Mv Bdry Loss: tensor(1959.9111)
Iteration: 17600      Total Loss: tensor(1251834.5000)
IC Loss: tensor(0.0122)       BC Loss: tensor(5.7442e-06)   NS PDE Loss: tensor(0.0097)   NS Div Free
Loss: tensor(9.8851e-17)      Mv Bdry Loss: tensor(595.4976)
Iteration: 17800      Total Loss: tensor(1112462.5000)
IC Loss: tensor(0.0106)       BC Loss: tensor(4.7658e-06)   NS PDE Loss: tensor(0.0085)   NS Div Free
Loss: tensor(1.4285e-15)      Mv Bdry Loss: tensor(994.2272)
Iteration: 18000      Total Loss: tensor(1225349.3750)
IC Loss: tensor(0.0117)       BC Loss: tensor(4.1373e-06)   NS PDE Loss: tensor(0.4694)   NS Div Free
Loss: tensor(3.9748e-16)      Mv Bdry Loss: tensor(1149.9185)
Iteration: 18200      Total Loss: tensor(1092300.1250)
IC Loss: tensor(0.0106)       BC Loss: tensor(0.0001)       NS PDE Loss: tensor(0.0017)   NS Div Free
Loss: tensor(2.2859e-16)      Mv Bdry Loss: tensor(628.4782)
Iteration: 18400      Total Loss: tensor(3583676.2500)
IC Loss: tensor(0.0355)       BC Loss: tensor(0.0027)       NS PDE Loss: tensor(0.5607)   NS Div Free
Loss: tensor(3.3737e-18)      Mv Bdry Loss: tensor(707.2056)
```

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Iteration: 18600        Total Loss: tensor(1.3552e+08)
IC Loss:  tensor(1.3545)        BC Loss:  tensor(0.0040)        NS PDE Loss:  tensor(0.0004)    NS Div Free
Loss:  tensor(9.8036e-18)       Mv Bdry Loss:  tensor(1407.7863)
Iteration: 18800        Total Loss: tensor(2826339.5000)
IC Loss:  tensor(0.0230)        BC Loss:  tensor(2.3928e-06)    NS PDE Loss:  tensor(3.7256e-07)        NS
Div Free Loss:  tensor(5.5958e-19)      Mv Bdry Loss:  tensor(10548.6270)
Iteration: 19000        Total Loss: tensor(2682281.2500)
IC Loss:  tensor(0.0247)        BC Loss:  tensor(1.4694e-06)    NS PDE Loss:  tensor(4.6552e-06)        NS
Div Free Loss:  tensor(8.4977e-18)      Mv Bdry Loss:  tensor(4173.5898)
Iteration: 19200        Total Loss: tensor(1006773.2500)
IC Loss:  tensor(0.0098)        BC Loss:  tensor(9.5449e-05)    NS PDE Loss:  tensor(3.8732e-07)        NS
Div Free Loss:  tensor(1.0880e-17)      Mv Bdry Loss:  tensor(631.5739)
Iteration: 19400        Total Loss: tensor(719160.8125)
IC Loss:  tensor(0.0070)        BC Loss:  tensor(0.0003)        NS PDE Loss:  tensor(7.4113e-07)        NS
Div Free Loss:  tensor(2.8303e-21)      Mv Bdry Loss:  tensor(299.8426)
Iteration: 19600        Total Loss: tensor(1915734.5000)
IC Loss:  tensor(0.0189)        BC Loss:  tensor(0.0022)        NS PDE Loss:  tensor(8.1131e-05)        NS
Div Free Loss:  tensor(4.6816e-21)      Mv Bdry Loss:  tensor(432.6292)
Iteration: 19800        Total Loss: tensor(27266888.)
IC Loss:  tensor(0.2653)        BC Loss:  tensor(2.7027e-07)    NS PDE Loss:  tensor(0.0001)    NS Div Free
Loss:  tensor(2.9480e-19)       Mv Bdry Loss:  tensor(14721.6357)
Iteration: 20000        Total Loss: tensor(2728950.7500)
IC Loss:  tensor(0.0217)        BC Loss:  tensor(3.3027e-07)    NS PDE Loss:  tensor(0.0001)    NS Div Free
Loss:  tensor(2.0335e-21)       Mv Bdry Loss:  tensor(11099.8604)
Executing Pass 2
Current Final Time: 0.1 Current Learning Rate:  0.0005
Iteration: 200  Total Loss: tensor(706364.4375)
IC Loss:  tensor(0.0069)        BC Loss:  tensor(4.1861e-08)    NS PDE Loss:  tensor(5.0286e-06)        NS
Div Free Loss:  tensor(7.7943e-21)      Mv Bdry Loss:  tensor(386.9876)
Iteration: 400  Total Loss: tensor(691203.3750)
IC Loss:  tensor(0.0067)        BC Loss:  tensor(4.4230e-08)    NS PDE Loss:  tensor(4.3681e-06)        NS
Div Free Loss:  tensor(1.5907e-20)      Mv Bdry Loss:  tensor(432.4324)
Iteration: 600  Total Loss: tensor(673503.9375)
IC Loss:  tensor(0.0065)        BC Loss:  tensor(4.5462e-08)    NS PDE Loss:  tensor(4.1820e-06)        NS
Div Free Loss:  tensor(6.6249e-21)      Mv Bdry Loss:  tensor(445.9839)
Iteration: 800  Total Loss: tensor(775272.1875)
IC Loss:  tensor(0.0075)        BC Loss:  tensor(4.3731e-08)    NS PDE Loss:  tensor(4.1778e-07)        NS
Div Free Loss:  tensor(2.4408e-20)      Mv Bdry Loss:  tensor(439.2863)
Iteration: 1000         Total Loss: tensor(769365.6875)
IC Loss:  tensor(0.0072)        BC Loss:  tensor(4.4272e-08)    NS PDE Loss:  tensor(9.8818e-07)        NS
Div Free Loss:  tensor(1.9262e-21)      Mv Bdry Loss:  tensor(1060.6013)
Iteration: 1200         Total Loss: tensor(843890.7500)
```

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IC Loss:  tensor(0.0082)        BC Loss:  tensor(4.4500e-08)    NS PDE Loss:  tensor(2.8213e-07)        NS
Div Free Loss:  tensor(9.6236e-21)     Mv Bdry Loss:  tensor(464.0010)
Iteration: 1400        Total Loss: tensor(710076.3750)
IC Loss:  tensor(0.0070)        BC Loss:  tensor(4.4375e-08)    NS PDE Loss:  tensor(9.9092e-08)        NS
Div Free Loss:  tensor(2.6696e-21)     Mv Bdry Loss:  tensor(256.2484)
Iteration: 1600        Total Loss: tensor(690459.0625)
IC Loss:  tensor(0.0068)        BC Loss:  tensor(4.5701e-08)    NS PDE Loss:  tensor(1.8069e-07)        NS
Div Free Loss:  tensor(1.7016e-21)     Mv Bdry Loss:  tensor(234.1349)
Iteration: 1800        Total Loss: tensor(697213.)
IC Loss:  tensor(0.0068)        BC Loss:  tensor(4.5242e-08)    NS PDE Loss:  tensor(2.9038e-07)        NS
Div Free Loss:  tensor(8.3024e-21)     Mv Bdry Loss:  tensor(244.5999)
Iteration: 2000        Total Loss: tensor(662670.6875)
IC Loss:  tensor(0.0065)        BC Loss:  tensor(4.4258e-08)    NS PDE Loss:  tensor(4.5363e-07)        NS
Div Free Loss:  tensor(2.4164e-21)     Mv Bdry Loss:  tensor(220.0154)
Iteration: 2200        Total Loss: tensor(665197.6250)
IC Loss:  tensor(0.0065)        BC Loss:  tensor(4.4240e-08)    NS PDE Loss:  tensor(1.9997e-06)        NS
Div Free Loss:  tensor(5.0347e-22)     Mv Bdry Loss:  tensor(364.3157)
Iteration: 2400        Total Loss: tensor(988824.3125)
IC Loss:  tensor(0.0096)        BC Loss:  tensor(4.6087e-08)    NS PDE Loss:  tensor(1.0054e-06)        NS
Div Free Loss:  tensor(1.4625e-23)     Mv Bdry Loss:  tensor(661.4384)
Iteration: 2600        Total Loss: tensor(716624.1875)
IC Loss:  tensor(0.0070)        BC Loss:  tensor(4.5506e-08)    NS PDE Loss:  tensor(3.3877e-05)        NS
Div Free Loss:  tensor(3.4876e-21)     Mv Bdry Loss:  tensor(413.5790)
Iteration: 2800        Total Loss: tensor(720602.8125)
IC Loss:  tensor(0.0064)        BC Loss:  tensor(4.4802e-08)    NS PDE Loss:  tensor(0.0002)    NS Div Free
Loss:  tensor(3.6300e-22)       Mv Bdry Loss:  tensor(1687.9995)
Iteration: 3000        Total Loss: tensor(689281.3125)
IC Loss:  tensor(0.0064)        BC Loss:  tensor(4.7108e-08)    NS PDE Loss:  tensor(0.0003)    NS Div Free
Loss:  tensor(1.1207e-21)       Mv Bdry Loss:  tensor(1047.4021)
Iteration: 3200        Total Loss: tensor(632004.6875)
IC Loss:  tensor(0.0061)        BC Loss:  tensor(4.5174e-08)    NS PDE Loss:  tensor(6.0227e-05)        NS
Div Free Loss:  tensor(1.8036e-21)     Mv Bdry Loss:  tensor(351.5135)
Iteration: 3400        Total Loss: tensor(576584.3750)
IC Loss:  tensor(0.0056)        BC Loss:  tensor(4.7424e-08)    NS PDE Loss:  tensor(0.0002)    NS Div Free
Loss:  tensor(8.9365e-23)       Mv Bdry Loss:  tensor(258.5253)
Iteration: 3600        Total Loss: tensor(618874.3125)
IC Loss:  tensor(0.0059)        BC Loss:  tensor(4.7764e-08)    NS PDE Loss:  tensor(0.0086)    NS Div Free
Loss:  tensor(5.5184e-24)       Mv Bdry Loss:  tensor(655.8845)
Iteration: 3800        Total Loss: tensor(549489.3750)
IC Loss:  tensor(0.0054)        BC Loss:  tensor(4.8943e-08)    NS PDE Loss:  tensor(0.0108)    NS Div Free
Loss:  tensor(6.2781e-22)       Mv Bdry Loss:  tensor(226.2463)
Iteration: 4000        Total Loss: tensor(539703.8750)
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IC Loss: tensor(0.0052)   BC Loss: tensor(4.9722e-08)   NS PDE Loss: tensor(0.0250)   NS Div Free
Loss: tensor(5.2805e-22)   Mv Bdry Loss: tensor(442.8614)
Iteration: 4200   Total Loss: tensor(521594.4688)
IC Loss: tensor(0.0050)   BC Loss: tensor(4.9432e-08)   NS PDE Loss: tensor(0.0082)   NS Div Free
Loss: tensor(3.9495e-22)   Mv Bdry Loss: tensor(426.9632)
Iteration: 4400   Total Loss: tensor(488463.1875)
IC Loss: tensor(0.0048)   BC Loss: tensor(5.2703e-08)   NS PDE Loss: tensor(0.0002)   NS Div Free
Loss: tensor(2.9240e-22)   Mv Bdry Loss: tensor(248.4480)
Iteration: 4600   Total Loss: tensor(465907.3438)
IC Loss: tensor(0.0045)   BC Loss: tensor(5.5253e-08)   NS PDE Loss: tensor(3.2577e-06)   NS
Div Free Loss: tensor(8.6904e-22)   Mv Bdry Loss: tensor(236.8819)
Iteration: 4800   Total Loss: tensor(467268.7812)
IC Loss: tensor(0.0046)   BC Loss: tensor(4.9775e-08)   NS PDE Loss: tensor(3.2723e-05)   NS
Div Free Loss: tensor(1.6332e-22)   Mv Bdry Loss: tensor(175.1141)
Iteration: 5000   Total Loss: tensor(427788.7188)
IC Loss: tensor(0.0042)   BC Loss: tensor(5.2262e-08)   NS PDE Loss: tensor(6.9436e-05)   NS
Div Free Loss: tensor(9.5211e-24)   Mv Bdry Loss: tensor(149.7560)
Iteration: 5200   Total Loss: tensor(450707.7188)
IC Loss: tensor(0.0044)   BC Loss: tensor(5.3525e-08)   NS PDE Loss: tensor(4.6985e-05)   NS
Div Free Loss: tensor(8.0093e-22)   Mv Bdry Loss: tensor(293.7310)
Iteration: 5400   Total Loss: tensor(414557.3750)
IC Loss: tensor(0.0040)   BC Loss: tensor(5.2858e-08)   NS PDE Loss: tensor(0.0003)   NS Div Free
Loss: tensor(8.0649e-23)   Mv Bdry Loss: tensor(346.1199)
Iteration: 5600   Total Loss: tensor(3.9134e+08)
IC Loss: tensor(3.9133)   BC Loss: tensor(5.2856e-08)   NS PDE Loss: tensor(0.0015)   NS Div Free
Loss: tensor(1.7634e-22)   Mv Bdry Loss: tensor(245.0038)
Iteration: 5800   Total Loss: tensor(18357924.)
IC Loss: tensor(0.1796)   BC Loss: tensor(5.5318e-08)   NS PDE Loss: tensor(45.4452)   NS Div Free
Loss: tensor(8.4471e-23)   Mv Bdry Loss: tensor(8003.7300)
Iteration: 6000   Total Loss: tensor(3818558.7500)
IC Loss: tensor(0.0368)   BC Loss: tensor(5.8452e-08)   NS PDE Loss: tensor(17.3556)   NS Div Free
Loss: tensor(2.7670e-21)   Mv Bdry Loss: tensor(2697.8784)
Iteration: 6200   Total Loss: tensor(1364694.2500)
IC Loss: tensor(0.0129)   BC Loss: tensor(8.0641e-08)   NS PDE Loss: tensor(5.3233)   NS Div Free
Loss: tensor(2.3094e-22)   Mv Bdry Loss: tensor(1460.3049)
Iteration: 6400   Total Loss: tensor(1231790.6250)
IC Loss: tensor(0.0118)   BC Loss: tensor(1.0853e-07)   NS PDE Loss: tensor(3.0382)   NS Div Free
Loss: tensor(1.4087e-24)   Mv Bdry Loss: tensor(1027.9927)
Iteration: 6600   Total Loss: tensor(1134895.6250)
IC Loss: tensor(0.0109)   BC Loss: tensor(1.1868e-07)   NS PDE Loss: tensor(0.3067)   NS Div Free
Loss: tensor(5.8084e-24)   Mv Bdry Loss: tensor(995.8038)
Iteration: 6800   Total Loss: tensor(1126137.6250)

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IC Loss: tensor(0.0107)        BC Loss: tensor(1.1771e-07)    NS PDE Loss: tensor(0.7065)    NS Div Free
Loss: tensor(1.7905e-23)       Mv Bdry Loss: tensor(1054.3531)
Iteration: 7000         Total Loss: tensor(1033674.5625)
IC Loss: tensor(0.0099)        BC Loss: tensor(1.2115e-07)    NS PDE Loss: tensor(7.3137)    NS Div Free
Loss: tensor(5.5303e-24)       Mv Bdry Loss: tensor(951.0938)
Iteration: 7200         Total Loss: tensor(998857.1875)
IC Loss: tensor(0.0095)        BC Loss: tensor(1.2447e-07)    NS PDE Loss: tensor(11.3426)    NS Div Free
Loss: tensor(4.2299e-23)       Mv Bdry Loss: tensor(1052.6390)
Iteration: 7400         Total Loss: tensor(954640.8125)
IC Loss: tensor(0.0091)        BC Loss: tensor(1.3469e-07)    NS PDE Loss: tensor(2.5421)    NS Div Free
Loss: tensor(2.6437e-23)       Mv Bdry Loss: tensor(846.0283)
Iteration: 7600         Total Loss: tensor(940408.6875)
IC Loss: tensor(0.0090)        BC Loss: tensor(1.6019e-07)    NS PDE Loss: tensor(2.7065)    NS Div Free
Loss: tensor(1.6054e-23)       Mv Bdry Loss: tensor(839.4564)
Iteration: 7800         Total Loss: tensor(914271.0625)
IC Loss: tensor(0.0088)        BC Loss: tensor(1.8714e-07)    NS PDE Loss: tensor(2.6849)    NS Div Free
Loss: tensor(6.1471e-24)       Mv Bdry Loss: tensor(724.3396)
Iteration: 8000         Total Loss: tensor(919741.)
IC Loss: tensor(0.0086)        BC Loss: tensor(1.9903e-07)    NS PDE Loss: tensor(0.5305)    NS Div Free
Loss: tensor(1.7917e-22)       Mv Bdry Loss: tensor(1238.8551)
Iteration: 8200         Total Loss: tensor(843126.5625)
IC Loss: tensor(0.0080)        BC Loss: tensor(2.1080e-07)    NS PDE Loss: tensor(2.4700)    NS Div Free
Loss: tensor(1.8494e-24)       Mv Bdry Loss: tensor(809.6526)
Iteration: 8400         Total Loss: tensor(815633.4375)
IC Loss: tensor(0.0077)        BC Loss: tensor(3.1269e-07)    NS PDE Loss: tensor(3.5173)    NS Div Free
Loss: tensor(1.6461e-24)       Mv Bdry Loss: tensor(837.5425)
Iteration: 8600         Total Loss: tensor(833235.8125)
IC Loss: tensor(0.0079)        BC Loss: tensor(9.3679e-06)    NS PDE Loss: tensor(3.2651)    NS Div Free
Loss: tensor(3.4863e-22)       Mv Bdry Loss: tensor(930.2978)
Iteration: 8800         Total Loss: tensor(800578.3125)
IC Loss: tensor(0.0076)        BC Loss: tensor(5.4717e-07)    NS PDE Loss: tensor(3.8410)    NS Div Free
Loss: tensor(1.3386e-21)       Mv Bdry Loss: tensor(750.6101)
Iteration: 9000         Total Loss: tensor(763937.8125)
IC Loss: tensor(0.0073)        BC Loss: tensor(8.5818e-07)    NS PDE Loss: tensor(3.4524)    NS Div Free
Loss: tensor(3.1608e-23)       Mv Bdry Loss: tensor(738.0048)
Iteration: 9200         Total Loss: tensor(777944.0625)
IC Loss: tensor(0.0074)        BC Loss: tensor(1.5837e-06)    NS PDE Loss: tensor(3.5384)    NS Div Free
Loss: tensor(4.5697e-23)       Mv Bdry Loss: tensor(741.2679)
Iteration: 9400         Total Loss: tensor(736397.5000)
IC Loss: tensor(0.0070)        BC Loss: tensor(2.2136e-06)    NS PDE Loss: tensor(2.7033)    NS Div Free
Loss: tensor(3.1153e-21)       Mv Bdry Loss: tensor(780.8040)
Iteration: 9600         Total Loss: tensor(769318.6875)
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IC Loss:  tensor(0.0073)          BC Loss:  tensor(3.9237e-06)    NS PDE Loss:  tensor(2.3073)    NS Div Free
Loss:  tensor(1.3887e-20)       Mv Bdry Loss:  tensor(829.0237)
Iteration: 9800        Total Loss: tensor(710201.3125)
IC Loss:  tensor(0.0068)          BC Loss:  tensor(2.6009e-06)    NS PDE Loss:  tensor(3.3806)    NS Div Free
Loss:  tensor(8.9493e-24)       Mv Bdry Loss:  tensor(681.3841)
Iteration: 10000        Total Loss: tensor(686703.5625)
IC Loss:  tensor(0.0065)          BC Loss:  tensor(2.6544e-06)    NS PDE Loss:  tensor(2.3780)    NS Div Free
Loss:  tensor(5.5866e-22)       Mv Bdry Loss:  tensor(681.5335)
Iteration: 10200        Total Loss: tensor(667651.3750)
IC Loss:  tensor(0.0063)          BC Loss:  tensor(2.5494e-06)    NS PDE Loss:  tensor(2.7069)    NS Div Free
Loss:  tensor(1.4036e-21)       Mv Bdry Loss:  tensor(654.6000)
Iteration: 10400        Total Loss: tensor(692848.3750)
IC Loss:  tensor(0.0066)          BC Loss:  tensor(4.1760e-06)    NS PDE Loss:  tensor(3.9126)    NS Div Free
Loss:  tensor(2.3652e-20)       Mv Bdry Loss:  tensor(731.2426)
Iteration: 10600        Total Loss: tensor(653786.5000)
IC Loss:  tensor(0.0062)          BC Loss:  tensor(9.6788e-06)    NS PDE Loss:  tensor(1.9373)    NS Div Free
Loss:  tensor(1.1529e-19)       Mv Bdry Loss:  tensor(706.2029)
Iteration: 10800        Total Loss: tensor(637767.1875)
IC Loss:  tensor(0.0060)          BC Loss:  tensor(0.0002)    NS PDE Loss:  tensor(1.9732)    NS Div Free
Loss:  tensor(3.1751e-18)       Mv Bdry Loss:  tensor(728.8038)
Iteration: 11000        Total Loss: tensor(663674.7500)
IC Loss:  tensor(0.0062)          BC Loss:  tensor(4.2910e-05)    NS PDE Loss:  tensor(1.1180)    NS Div Free
Loss:  tensor(1.0081e-18)       Mv Bdry Loss:  tensor(786.5624)
Iteration: 11200        Total Loss: tensor(625940.9375)
IC Loss:  tensor(0.0059)          BC Loss:  tensor(2.7870e-05)    NS PDE Loss:  tensor(0.4071)    NS Div Free
Loss:  tensor(5.7311e-19)       Mv Bdry Loss:  tensor(730.0916)
Iteration: 11400        Total Loss: tensor(620193.8750)
IC Loss:  tensor(0.0059)          BC Loss:  tensor(2.6741e-05)    NS PDE Loss:  tensor(1.2338)    NS Div Free
Loss:  tensor(2.9470e-19)       Mv Bdry Loss:  tensor(699.3484)
Iteration: 11600        Total Loss: tensor(587733.2500)
IC Loss:  tensor(0.0055)          BC Loss:  tensor(3.1834e-05)    NS PDE Loss:  tensor(0.8341)    NS Div Free
Loss:  tensor(1.0071e-20)       Mv Bdry Loss:  tensor(709.2362)
Iteration: 11800        Total Loss: tensor(581356.9375)
IC Loss:  tensor(0.0055)          BC Loss:  tensor(2.5869e-05)    NS PDE Loss:  tensor(0.7731)    NS Div Free
Loss:  tensor(1.2255e-19)       Mv Bdry Loss:  tensor(709.3754)
Iteration: 12000        Total Loss: tensor(566920.9375)
IC Loss:  tensor(0.0053)          BC Loss:  tensor(2.7405e-05)    NS PDE Loss:  tensor(0.4201)    NS Div Free
Loss:  tensor(3.0617e-19)       Mv Bdry Loss:  tensor(680.5665)
Iteration: 12200        Total Loss: tensor(592261.2500)
IC Loss:  tensor(0.0055)          BC Loss:  tensor(1.8512e-05)    NS PDE Loss:  tensor(0.1056)    NS Div Free
Loss:  tensor(4.3240e-19)       Mv Bdry Loss:  tensor(792.4101)
Iteration: 12400        Total Loss: tensor(595420.5625)
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IC Loss:  tensor(0.0056)        BC Loss:  tensor(1.7657e-05)    NS PDE Loss:  tensor(0.2796)    NS Div Free
Loss:  tensor(1.6311e-19)        Mv Bdry Loss:  tensor(731.1061)
Iteration: 12600        Total Loss: tensor(547717.3750)
IC Loss:  tensor(0.0051)        BC Loss:  tensor(1.7380e-05)    NS PDE Loss:  tensor(0.0643)    NS Div Free
Loss:  tensor(3.3719e-19)        Mv Bdry Loss:  tensor(701.3848)
Iteration: 12800        Total Loss: tensor(684937.7500)
IC Loss:  tensor(0.0065)        BC Loss:  tensor(1.4917e-05)    NS PDE Loss:  tensor(0.1328)    NS Div Free
Loss:  tensor(2.3126e-18)        Mv Bdry Loss:  tensor(771.1461)
Iteration: 13000        Total Loss: tensor(523064.4062)
IC Loss:  tensor(0.0049)        BC Loss:  tensor(1.4076e-05)    NS PDE Loss:  tensor(0.0992)    NS Div Free
Loss:  tensor(9.9494e-20)        Mv Bdry Loss:  tensor(662.5085)
Iteration: 13200        Total Loss: tensor(667701.)
IC Loss:  tensor(0.0062)        BC Loss:  tensor(1.2264e-05)    NS PDE Loss:  tensor(0.0054)    NS Div Free
Loss:  tensor(2.3376e-19)        Mv Bdry Loss:  tensor(917.0587)
Iteration: 13400        Total Loss: tensor(558393.4375)
IC Loss:  tensor(0.0052)        BC Loss:  tensor(1.0354e-05)    NS PDE Loss:  tensor(0.0100)    NS Div Free
Loss:  tensor(7.9786e-20)        Mv Bdry Loss:  tensor(750.2339)
Iteration: 13600        Total Loss: tensor(487148.5312)
IC Loss:  tensor(0.0046)        BC Loss:  tensor(8.0979e-06)    NS PDE Loss:  tensor(0.0024)    NS Div Free
Loss:  tensor(2.6171e-19)        Mv Bdry Loss:  tensor(628.9401)
Iteration: 13800        Total Loss: tensor(478636.0625)
IC Loss:  tensor(0.0045)        BC Loss:  tensor(7.2308e-06)    NS PDE Loss:  tensor(0.0003)    NS Div Free
Loss:  tensor(1.0722e-19)        Mv Bdry Loss:  tensor(642.7750)
Iteration: 14000        Total Loss: tensor(470552.7812)
IC Loss:  tensor(0.0044)        BC Loss:  tensor(5.1423e-06)    NS PDE Loss:  tensor(2.8965e-05)        NS
Div Free Loss:  tensor(1.7962e-20)    Mv Bdry Loss:  tensor(605.9614)
Iteration: 14200        Total Loss: tensor(466822.2500)
IC Loss:  tensor(0.0043)        BC Loss:  tensor(4.0908e-06)    NS PDE Loss:  tensor(8.8054e-05)        NS
Div Free Loss:  tensor(2.0164e-19)    Mv Bdry Loss:  tensor(782.6906)
Iteration: 14400        Total Loss: tensor(459326.1250)
IC Loss:  tensor(0.0043)        BC Loss:  tensor(3.5750e-06)    NS PDE Loss:  tensor(0.0003)    NS Div Free
Loss:  tensor(6.1002e-20)        Mv Bdry Loss:  tensor(665.6799)
Iteration: 14600        Total Loss: tensor(2303397.2500)
IC Loss:  tensor(0.0227)        BC Loss:  tensor(5.5333e-05)    NS PDE Loss:  tensor(7.7279e-05)        NS
Div Free Loss:  tensor(5.0586e-20)    Mv Bdry Loss:  tensor(683.9039)
Iteration: 14800        Total Loss: tensor(421643.6250)
IC Loss:  tensor(0.0039)        BC Loss:  tensor(1.4884e-06)    NS PDE Loss:  tensor(4.5807e-05)        NS
Div Free Loss:  tensor(3.1715e-20)    Mv Bdry Loss:  tensor(605.7479)
Iteration: 15000        Total Loss: tensor(618179.5625)
IC Loss:  tensor(0.0057)        BC Loss:  tensor(1.3558e-06)    NS PDE Loss:  tensor(1.8042e-05)        NS
Div Free Loss:  tensor(6.8528e-21)    Mv Bdry Loss:  tensor(926.6962)
Iteration: 15200        Total Loss: tensor(448119.6875)
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IC Loss:  tensor(0.0040)         BC Loss:  tensor(1.1348e-06)    NS PDE Loss:  tensor(4.8505e-06)        NS
Div Free Loss:  tensor(6.3890e-21)      Mv Bdry Loss:  tensor(901.7003)
Iteration: 15400        Total Loss: tensor(400353.7500)
IC Loss:  tensor(0.0037)         BC Loss:  tensor(1.0954e-06)    NS PDE Loss:  tensor(9.9225e-06)        NS
Div Free Loss:  tensor(1.6876e-20)      Mv Bdry Loss:  tensor(654.6565)
Iteration: 15600        Total Loss: tensor(638398.3125)
IC Loss:  tensor(0.0059)         BC Loss:  tensor(1.0107e-06)    NS PDE Loss:  tensor(1.4801e-05)        NS
Div Free Loss:  tensor(3.2799e-20)      Mv Bdry Loss:  tensor(1010.9904)
Iteration: 15800        Total Loss: tensor(432097.9688)
IC Loss:  tensor(0.0040)         BC Loss:  tensor(8.5065e-07)    NS PDE Loss:  tensor(1.8416e-05)        NS
Div Free Loss:  tensor(2.1408e-20)      Mv Bdry Loss:  tensor(725.2715)
Iteration: 16000        Total Loss: tensor(379967.1562)
IC Loss:  tensor(0.0035)         BC Loss:  tensor(7.5893e-07)    NS PDE Loss:  tensor(5.2041e-06)        NS
Div Free Loss:  tensor(6.2252e-21)      Mv Bdry Loss:  tensor(662.1150)
Iteration: 16200        Total Loss: tensor(397120.1875)
IC Loss:  tensor(0.0037)         BC Loss:  tensor(7.0671e-07)    NS PDE Loss:  tensor(1.0854e-07)        NS
Div Free Loss:  tensor(1.0426e-22)      Mv Bdry Loss:  tensor(625.4916)
Iteration: 16400        Total Loss: tensor(369860.5625)
IC Loss:  tensor(0.0033)         BC Loss:  tensor(5.9339e-07)    NS PDE Loss:  tensor(5.9773e-07)        NS
Div Free Loss:  tensor(1.7171e-21)      Mv Bdry Loss:  tensor(702.8605)
Iteration: 16600        Total Loss: tensor(380654.1875)
IC Loss:  tensor(0.0034)         BC Loss:  tensor(5.3009e-07)    NS PDE Loss:  tensor(1.2715e-05)        NS
Div Free Loss:  tensor(4.0285e-20)      Mv Bdry Loss:  tensor(724.6600)
Iteration: 16800        Total Loss: tensor(371366.7188)
IC Loss:  tensor(0.0034)         BC Loss:  tensor(5.0261e-07)    NS PDE Loss:  tensor(4.7408e-09)        NS
Div Free Loss:  tensor(1.7088e-24)      Mv Bdry Loss:  tensor(631.4270)
Iteration: 17000        Total Loss: tensor(385425.0625)
IC Loss:  tensor(0.0035)         BC Loss:  tensor(4.8908e-07)    NS PDE Loss:  tensor(1.3865e-08)        NS
Div Free Loss:  tensor(9.1026e-24)      Mv Bdry Loss:  tensor(693.0583)
Iteration: 17200        Total Loss: tensor(462172.9375)
IC Loss:  tensor(0.0041)         BC Loss:  tensor(3.9002e-07)    NS PDE Loss:  tensor(6.1477e-07)        NS
Div Free Loss:  tensor(1.7116e-21)      Mv Bdry Loss:  tensor(1006.7849)
Iteration: 17400        Total Loss: tensor(395657.4062)
IC Loss:  tensor(0.0036)         BC Loss:  tensor(3.5090e-07)    NS PDE Loss:  tensor(5.1500e-06)        NS
Div Free Loss:  tensor(4.0150e-21)      Mv Bdry Loss:  tensor(632.9180)
Iteration: 17600        Total Loss: tensor(337732.7500)
IC Loss:  tensor(0.0031)         BC Loss:  tensor(3.0515e-07)    NS PDE Loss:  tensor(1.2870e-07)        NS
Div Free Loss:  tensor(1.9143e-22)      Mv Bdry Loss:  tensor(591.5021)
Iteration: 17800        Total Loss: tensor(332606.5000)
IC Loss:  tensor(0.0030)         BC Loss:  tensor(2.3571e-07)    NS PDE Loss:  tensor(9.3595e-08)        NS
Div Free Loss:  tensor(1.1753e-22)      Mv Bdry Loss:  tensor(578.3000)
Iteration: 18000        Total Loss: tensor(324278.2188)
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IC Loss:  tensor(0.0030)        BC Loss:  tensor(2.2376e-07)    NS PDE Loss:  tensor(2.7922e-07)         NS
Div Free Loss:  tensor(3.2718e-22)     Mv Bdry Loss:  tensor(582.7668)
Iteration: 18200      Total Loss: tensor(342013.4375)
IC Loss:  tensor(0.0031)        BC Loss:  tensor(2.4479e-07)    NS PDE Loss:  tensor(2.2704e-06)         NS
Div Free Loss:  tensor(2.5154e-21)     Mv Bdry Loss:  tensor(727.0110)
Iteration: 18400      Total Loss: tensor(338854.4062)
IC Loss:  tensor(0.0030)        BC Loss:  tensor(2.2474e-07)    NS PDE Loss:  tensor(4.4907e-07)         NS
Div Free Loss:  tensor(5.7346e-22)     Mv Bdry Loss:  tensor(743.7052)
Iteration: 18600      Total Loss: tensor(315384.4375)
IC Loss:  tensor(0.0028)        BC Loss:  tensor(2.0134e-07)    NS PDE Loss:  tensor(1.0124e-07)         NS
Div Free Loss:  tensor(2.4130e-23)     Mv Bdry Loss:  tensor(623.1376)
Iteration: 18800      Total Loss: tensor(311221.9375)
IC Loss:  tensor(0.0028)        BC Loss:  tensor(2.0202e-07)    NS PDE Loss:  tensor(1.2420e-06)         NS
Div Free Loss:  tensor(2.3175e-21)     Mv Bdry Loss:  tensor(620.9919)
Iteration: 19000      Total Loss: tensor(312972.2500)
IC Loss:  tensor(0.0028)        BC Loss:  tensor(1.6842e-07)    NS PDE Loss:  tensor(2.1550e-07)         NS
Div Free Loss:  tensor(2.6120e-22)     Mv Bdry Loss:  tensor(561.5150)
Iteration: 19200      Total Loss: tensor(300750.)
IC Loss:  tensor(0.0027)        BC Loss:  tensor(1.6715e-07)    NS PDE Loss:  tensor(2.6756e-06)         NS
Div Free Loss:  tensor(4.7185e-21)     Mv Bdry Loss:  tensor(614.4138)
Iteration: 19400      Total Loss: tensor(299975.2500)
IC Loss:  tensor(0.0027)        BC Loss:  tensor(4.8178e-07)    NS PDE Loss:  tensor(3.8146e-07)         NS
Div Free Loss:  tensor(4.8862e-22)     Mv Bdry Loss:  tensor(550.5845)
Iteration: 19600      Total Loss: tensor(303110.7188)
IC Loss:  tensor(0.0028)        BC Loss:  tensor(1.1313e-07)    NS PDE Loss:  tensor(9.9428e-07)         NS
Div Free Loss:  tensor(1.1348e-21)     Mv Bdry Loss:  tensor(544.9728)
Iteration: 19800      Total Loss: tensor(295531.9688)
IC Loss:  tensor(0.0027)        BC Loss:  tensor(1.0550e-07)    NS PDE Loss:  tensor(1.5473e-07)         NS
Div Free Loss:  tensor(1.5628e-22)     Mv Bdry Loss:  tensor(543.8268)
Iteration: 20000      Total Loss: tensor(328857.2500)
IC Loss:  tensor(0.0030)        BC Loss:  tensor(9.9515e-08)    NS PDE Loss:  tensor(1.4565e-06)         NS
Div Free Loss:  tensor(3.8626e-21)     Mv Bdry Loss:  tensor(587.1236)
Current Final Time: 0.2 Current Learning Rate:  0.0005
Iteration: 200  Total Loss: tensor(341285.6250)
IC Loss:  tensor(0.0029)        BC Loss:  tensor(9.2991e-08)    NS PDE Loss:  tensor(5.7246e-07)         NS
Div Free Loss:  tensor(1.1008e-21)     Mv Bdry Loss:  tensor(950.2188)
Iteration: 400  Total Loss: tensor(289959.3125)
IC Loss:  tensor(0.0026)        BC Loss:  tensor(8.8220e-08)    NS PDE Loss:  tensor(1.9690e-07)         NS
Div Free Loss:  tensor(4.4094e-23)     Mv Bdry Loss:  tensor(618.3076)
Iteration: 600  Total Loss: tensor(396214.1562)
IC Loss:  tensor(0.0036)        BC Loss:  tensor(8.5652e-08)    NS PDE Loss:  tensor(3.8010e-07)         NS
Div Free Loss:  tensor(9.6865e-22)     Mv Bdry Loss:  tensor(791.4833)
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Iteration: 800  Total Loss: tensor(275651.3125)
IC Loss:  tensor(0.0024)        BC Loss:  tensor(1.5197e-06)    NS PDE Loss:  tensor(2.0712e-07)        NS
Div Free Loss:  tensor(8.0180e-22)      Mv Bdry Loss:  tensor(621.1848)
Iteration: 1000         Total Loss: tensor(285756.1875)
IC Loss:  tensor(0.0025)        BC Loss:  tensor(1.8888e-07)    NS PDE Loss:  tensor(3.9206e-07)        NS
Div Free Loss:  tensor(1.3497e-21)      Mv Bdry Loss:  tensor(627.3278)
Iteration: 1200         Total Loss: tensor(292569.5312)
IC Loss:  tensor(0.0026)        BC Loss:  tensor(1.8259e-07)    NS PDE Loss:  tensor(2.4795e-06)        NS
Div Free Loss:  tensor(3.7092e-20)      Mv Bdry Loss:  tensor(666.3446)
Iteration: 1400         Total Loss: tensor(269610.6250)
IC Loss:  tensor(0.0024)        BC Loss:  tensor(1.6698e-07)    NS PDE Loss:  tensor(7.3194e-08)        NS
Div Free Loss:  tensor(4.7153e-22)      Mv Bdry Loss:  tensor(574.4904)
Iteration: 1600         Total Loss: tensor(265812.4375)
IC Loss:  tensor(0.0024)        BC Loss:  tensor(1.5138e-07)    NS PDE Loss:  tensor(1.1930e-07)        NS
Div Free Loss:  tensor(8.4736e-22)      Mv Bdry Loss:  tensor(576.8600)
Iteration: 1800         Total Loss: tensor(407782.0312)
IC Loss:  tensor(0.0037)        BC Loss:  tensor(1.3523e-07)    NS PDE Loss:  tensor(4.2845e-07)        NS
Div Free Loss:  tensor(6.3883e-21)      Mv Bdry Loss:  tensor(688.8514)
Iteration: 2000         Total Loss: tensor(252065.8594)
IC Loss:  tensor(0.0023)        BC Loss:  tensor(1.2431e-07)    NS PDE Loss:  tensor(1.5721e-07)        NS
Div Free Loss:  tensor(9.0746e-22)      Mv Bdry Loss:  tensor(512.3575)
Iteration: 2200         Total Loss: tensor(286176.6875)
IC Loss:  tensor(0.0026)        BC Loss:  tensor(1.1463e-07)    NS PDE Loss:  tensor(7.8813e-07)        NS
Div Free Loss:  tensor(6.9487e-21)      Mv Bdry Loss:  tensor(545.1770)
Iteration: 2400         Total Loss: tensor(243969.4531)
IC Loss:  tensor(0.0022)        BC Loss:  tensor(1.1022e-07)    NS PDE Loss:  tensor(4.8173e-08)        NS
Div Free Loss:  tensor(1.8670e-22)      Mv Bdry Loss:  tensor(454.5668)
Iteration: 2600         Total Loss: tensor(307967.4688)
IC Loss:  tensor(0.0028)        BC Loss:  tensor(9.9896e-08)    NS PDE Loss:  tensor(1.3833e-06)        NS
Div Free Loss:  tensor(5.1204e-20)      Mv Bdry Loss:  tensor(536.8375)
Iteration: 2800         Total Loss: tensor(246960.6406)
IC Loss:  tensor(0.0023)        BC Loss:  tensor(8.6098e-08)    NS PDE Loss:  tensor(2.6168e-07)        NS
Div Free Loss:  tensor(1.4214e-21)      Mv Bdry Loss:  tensor(428.1057)
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In [ ]: