```
In [1]: import torch
        import numpy as np
        from torch.autograd import Variable
        import time
        #Call model of layers and its forward step
        from Forward with Layer Setting import Net
        device = torch.device("cuda:0" if torch.cuda.is available() else "cpu")
        #Call training functions of Loss functions
        from NSpde loss import lossNSpde
        from 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([.01,.1]) #, .25, .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, 30000, 10**-3, 'IC Only.pt', record loss = 100, p
                IC Done = time.time()
                print('IC Time:\t', IC Done-start)
                print('Training Only on the NSpde Condition')
```

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NSpde_Only_training(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, 20000, 10**-3, record_loss = 100, print_loss = 1000
    torch.save(net.state_dict(), f"NSpde_afterIC_.pt")
   NSpde Done = time.time()
    print('MvBdry Time:\t', NSpde Done-start)
    return 0
time_vec = [0, 0, 0, 0]
#attempt to load IC if it exists
try:
    net.load_state_dict(torch.load("IC_Only.pt"))
except:
    pass
#attempt to load MvBdry if it exists
try:
    net.load_state_dict(torch.load("NSpde_Only.pt"))
except:
    pass
global epsilon #used to track loss
epsilon = []
print('Training PDE')
for i in range(4):
    #Set loop to optimize in progressively smaller learning rates
    if i == 0:
        #First loop uses progressively increasing time intervals
        print('Executing Pass 1')
        iterations = 20000
        learning rate = 10**-4
    elif i == 1:
        print('Executing Pass 2')
        #time slices = time slices[-1]
        iterations = 20000
        learning rate = 10**-5
    elif i == 2:
        print('Executing Pass 3')
```

```
iterations = 20000
            learning rate = 5*10**-6
        elif i ==3:
            print('Executing Pass 4')
           iterations = 20000
           learning rate = 10**-6
       training loop(net, x domain, y domain, t zero, x Bdry, y Bdry, x l Bdry, x u Bdry,
                      y l Bdry, y u Bdry, time slices, iterations, learning rate, IC coefficient = 1, reco
       torch.save(net.state dict(), f"NNlayers Bubble {i}.pt")
       np.savetxt('epsilon.txt', epsilon)
       time vec[i] = time.time()
   np.savetxt('epsilon.txt', epsilon)
   end = time.time()
    print("Total Time:\t", end-start, '\nPass 1 Time:\t', time vec[0]-start, '\nPass 2 Time:\t', time vec[1
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)
   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):
```

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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, primare control of the 
          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")
         # 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 numpv
         \#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 \times 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 nonfinite
        #Gradient Value Clipping
        #nn.utils.clip grad value (net.parameters(), clip value=1.0)
        net.optimizer.step()
        #Print Loss every 1000 Epochs
        with torch.autograd.no grad():
            if epoch%record loss == 0:
                epsilon IC = np.append(epsilon IC, loss.cpu().detach().numpy())
            if epoch%print loss == 0:
                print("Iteration:", epoch, "Initial Condition Loss:", loss.data)
    np.savetxt('epsilon IC.txt', epsilon IC)
def NSpde_Only_training(net, x_domain, y_domain, t_zero, x_Bdry, y_Bdry, x_l_Bdry, x_u_Bdry, y_l_Bdry, y_u
    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: #To detect error on forward/Backward, add hashtag on this v
    #with torch.autograd.detect anomaly(): #use this line alternatively by deleting hashtag.
        ###Training steps
        # Resetting gradients to zero
        net.optimizer.zero grad()
        111
        #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 i
        #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 i
        #Loss based on PDE
        mse NS = 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 i
        #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 i
        if indicator == False:
            indicator = True
            IC regular = mse IC.detach()
            BC regular = mse BC.detach()
            pde regular = mse NS.detach()
            MvBdry regular = mse MvBdry.detach()
```

```
raw loss = mse MvBdry
                mse IC = mse IC #/IC regular
               mse BC = mse BC #/BC regular
               mse NS = mse NS #/pde regular
               mse MvBdry = mse MvBdry #/MvBdry regular
                #Combine all Loss functions
                loss = 10**7 * mse NS
               # Gradient Norm Clipping
                #torch.nn.utils.clip grad norm (net.parameters(), max norm= 5*10**2, norm type=1, error if
                loss.backward()
            #Gradient Value Clipping
            #nn.utils.clip grad value (net.parameters(), clip value=1.0)
            net.optimizer.step()
           #Print Loss every 1000 Epochs
           with torch.autograd.no grad():
                if epoch%print_loss == 0:
                    print("Iteration:", epoch, "\tTotal Loss:", loss.data)
                    print("\tNspde Loss: ", mse_NS.data)
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 q 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 v
   #with torch.autograd.detect anomaly(): #use this line alternatively by deleting hashtag.
       ###Training steps
       # Resetting gradients to zero
        net.optimizer.zero grad()
       #Loss based on Initial Condition
       mse_IC = lossIC(net, x_domain, y_domain, t_zero)
       # Gradient Norm Clipping
       torch.nn.utils.clip grad norm (net.parameters(), max norm= 5*10**2, norm type=1, error if i
       #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 i
       #Loss based on PDE
       mse NS = 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 i
       #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 i
        if indicator == False:
            indicator = True
            IC regular = mse IC.detach()
            BC regular = mse BC.detach()
```

```
pde regular = mse NS.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 MvBdry = mse MvBdry #/MvBdry regular
               #Combine all Loss functions
               loss = mse BC +mse MvBdry + 10**5 *mse IC + 10**5 * mse NS #IC coefficient *
               # Gradient Norm Clipping
               torch.nn.utils.clip grad norm (net.parameters(), max norm= 5*10**2, norm type=1, error if i
                loss.backward()
           # Gradient Norm Clipping
           torch.nn.utils.clip grad norm (net.parameters(), max norm= 5*10**2, norm type=1, error if nonf
           #Gradient Value Clipping
           #nn.utils.clip grad value (net.parameters(), clip value=1.0)
           net.optimizer.step()
           #Print Loss every 1000 Epochs
           with torch.autograd.no grad():
               if epoch%record loss == 0:
                    epsilon = np.append(epsilon, raw loss.cpu().detach().numpy())
                if epoch%print loss == 0:
                   print("Iteration:", epoch, "\tTotal Loss:", loss.data)
                    print("IC Loss: ", mse_IC.data, "\tBC Loss: ", mse_BC.data, "\tNS PDE Loss: ", mse_NS.c
create network(True)
create network(False)
```

```
Training Only on the Initial Condition
Iteration: 1000 Initial Condition Loss: tensor(0.1800)
Iteration: 2000 Initial Condition Loss: tensor(0.0239)
Iteration: 3000 Initial Condition Loss: tensor(0.0136)
Iteration: 4000 Initial Condition Loss: tensor(0.0083)
Iteration: 5000 Initial Condition Loss: tensor(0.0053)
Iteration: 6000 Initial Condition Loss: tensor(0.0040)
Iteration: 7000 Initial Condition Loss: tensor(0.0029)
Iteration: 8000 Initial Condition Loss: tensor(0.0031)
Iteration: 9000 Initial Condition Loss: tensor(0.0020)
Iteration: 10000 Initial Condition Loss: tensor(0.0051)
Iteration: 11000 Initial Condition Loss: tensor(0.0027)
Iteration: 12000 Initial Condition Loss: tensor(0.0024)
Iteration: 13000 Initial Condition Loss: tensor(0.0022)
Iteration: 14000 Initial Condition Loss: tensor(0.0020)
Iteration: 15000 Initial Condition Loss: tensor(0.0017)
Iteration: 16000 Initial Condition Loss: tensor(0.0014)
Iteration: 17000 Initial Condition Loss: tensor(0.0011)
Iteration: 18000 Initial Condition Loss: tensor(0.0012)
Iteration: 19000 Initial Condition Loss: tensor(0.0009)
Iteration: 20000 Initial Condition Loss: tensor(0.0007)
Iteration: 21000 Initial Condition Loss: tensor(0.0005)
Iteration: 22000 Initial Condition Loss: tensor(0.0004)
Iteration: 23000 Initial Condition Loss: tensor(0.0021)
Iteration: 24000 Initial Condition Loss: tensor(0.0012)
Iteration: 25000 Initial Condition Loss: tensor(0.0009)
Iteration: 26000 Initial Condition Loss: tensor(0.0007)
Iteration: 27000 Initial Condition Loss: tensor(0.0007)
Iteration: 28000 Initial Condition Loss: tensor(0.0006)
Iteration: 29000 Initial Condition Loss: tensor(0.0005)
Iteration: 30000 Initial Condition Loss: tensor(0.0005)
                 272.25362491607666
IC Time:
Training Only on the NSpde Condition
Current Final Time: 0.01 Current Learning Rate: 0.001
Iteration: 1000
                        Total Loss: tensor(60.6514)
        Nspde Loss: tensor(6.0651e-06)
Iteration: 2000
                        Total Loss: tensor(42.9121)
        Nspde Loss: tensor(4.2912e-06)
                        Total Loss: tensor(35.1449)
Iteration: 3000
        Nspde Loss: tensor(3.5145e-06)
                        Total Loss: tensor(27,4386)
Iteration: 4000
        Nspde Loss: tensor(2.7439e-06)
```

Iteration: 5000 Total Loss: tensor(20.1644) Nspde Loss: tensor(2.0164e-06) Iteration: 6000 Total Loss: tensor(14.0154) Nspde Loss: tensor(1.4015e-06) Iteration: 7000 Total Loss: tensor(9.1580) Nspde Loss: tensor(9.1580e-07) Iteration: 8000 Total Loss: tensor(5,6980) Nspde Loss: tensor(5.6980e-07) Iteration: 9000 Total Loss: tensor(3.7555) Nspde Loss: tensor(3.7555e-07) Iteration: 10000 Total Loss: tensor(2.3526) Nspde Loss: tensor(2.3526e-07) Iteration: 11000 Total Loss: tensor(1.5166) Nspde Loss: tensor(1.5166e-07) Iteration: 12000 Total Loss: tensor(0.8232) Nspde Loss: tensor(8.2315e-08) Iteration: 13000 Total Loss: tensor(0.8666) Nspde Loss: tensor(8.6661e-08) Iteration: 14000 Total Loss: tensor(0.4110) Nspde Loss: tensor(4.1102e-08) Iteration: 15000 Total Loss: tensor(0.1959) Nspde Loss: tensor(1.9592e-08) Iteration: 16000 Total Loss: tensor(0.1580) Nspde Loss: tensor(1.5796e-08) Iteration: 17000 Total Loss: tensor(0.0992) Nspde Loss: tensor(9.9210e-09) Iteration: 18000 Total Loss: tensor(0.2611) Nspde Loss: tensor(2.6107e-08) Iteration: 19000 Total Loss: tensor(0.0296) Nspde Loss: tensor(2.9594e-09) Iteration: 20000 Total Loss: tensor(0.1262) Nspde Loss: tensor(1.2621e-08) Current Final Time: 0.1 Current Learning Rate: 0.001 Iteration: 1000 Total Loss: tensor(0.0218) Nspde Loss: tensor(2.1841e-09) Iteration: 2000 Total Loss: tensor(0.0373) Nspde Loss: tensor(3.7280e-09) Iteration: 3000 Total Loss: tensor(0.0064)

```
Nspde Loss: tensor(6.0983e-09)
Iteration: 6000
                      Total Loss: tensor(0.1648)
       Nspde Loss: tensor(1.6481e-08)
Iteration: 7000
                      Total Loss: tensor(0.0858)
       Nspde Loss: tensor(8.5828e-09)
Iteration: 8000 Total Loss: tensor(0.0043)
       Nspde Loss: tensor(4.3148e-10)
Iteration: 9000
                    Total Loss: tensor(0.0071)
       Nspde Loss: tensor(7.0976e-10)
Iteration: 10000
                      Total Loss: tensor(0.0027)
       Nspde Loss: tensor(2.6976e-10)
                      Total Loss: tensor(0.0036)
Iteration: 11000
       Nspde Loss: tensor(3.5552e-10)
Iteration: 12000
                      Total Loss: tensor(0.0029)
       Nspde Loss: tensor(2.8646e-10)
Iteration: 13000
                      Total Loss: tensor(0.0083)
       Nspde Loss: tensor(8.3441e-10)
Tteration: 14000
                      Total Loss: tensor(0.0080)
       Nspde Loss: tensor(8.0331e-10)
Iteration: 15000 Total Loss: tensor(0.0032)
       Nspde Loss: tensor(3.1817e-10)
Iteration: 16000 Total Loss: tensor(0.0027)
       Nspde Loss: tensor(2.7195e-10)
Iteration: 17000 Total Loss: tensor(0.0042)
       Nspde Loss: tensor(4.2447e-10)
Iteration: 18000
                    Total Loss: tensor(0.0007)
       Nspde Loss: tensor(7.0754e-11)
Iteration: 19000
                      Total Loss: tensor(0.0010)
       Nspde Loss: tensor(1.0103e-10)
Iteration: 20000
                      Total Loss: tensor(0.0007)
       Nspde Loss: tensor(7.1005e-11)
               3494.7036638259888
MvBdrv Time:
Training PDE
Executing Pass 1
Current Final Time: 0.01 Current Learning Rate: 0.0001
Iteration: 200 Total Loss: tensor(2.9569e+12)
                             BC Loss: tensor(2.1422e-11)
IC Loss: tensor(0.4106)
                                                           NS PDE Loss: tensor(65,6630) My Bdry Los
s: tensor(2.9569e+12)
Iteration: 400 Total Loss: tensor(1.6849e+12)
IC Loss: tensor(0.4085)
                             BC Loss: tensor(1.8745e-11) NS PDE Loss: tensor(65.8026) Mv Bdry Los
s: tensor(1.6849e+12)
```

Iteration: 600 Total Loss: tensor(1.2952e+12)

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BC Loss: tensor(1.5210e-11) NS PDE Loss: tensor(65.4971) Mv Bdry Los
IC Loss: tensor(0.4070)
s: tensor(1.2952e+12)
Iteration: 800 Total Loss: tensor(9.3718e+11)
                                                             NS PDE Loss: tensor(65.3524)
IC Loss: tensor(0.4070)
                              BC Loss: tensor(1.4378e-11)
                                                                                            Mv Bdry Los
s: tensor(9.3717e+11)
                      Total Loss: tensor(9.0097e+11)
Iteration: 1000
                                                             NS PDE Loss: tensor(65.2272)
IC Loss: tensor(0.4070)
                              BC Loss: tensor(1.1667e-11)
                                                                                            Mv Bdry Los
s: tensor(9.0097e+11)
Iteration: 1200
                      Total Loss: tensor(8.0366e+11)
IC Loss: tensor(0.4067)
                                                             NS PDE Loss: tensor(65.1599)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(8.9055e-12)
s: tensor(8.0366e+11)
Iteration: 1400
                      Total Loss: tensor(6.0617e+11)
                                                             NS PDE Loss: tensor(64.8764)
IC Loss: tensor(0.4077)
                              BC Loss: tensor(7.7248e-12)
                                                                                            Mv Bdry Los
s: tensor(6.0616e+11)
Iteration: 1600
                      Total Loss: tensor(5,4437e+11)
                                                             NS PDE Loss: tensor(64.7506)
IC Loss: tensor(0.4082)
                              BC Loss: tensor(4.8937e-12)
                                                                                            Mv Bdry Los
s: tensor(5.4437e+11)
Iteration: 1800
                      Total Loss: tensor(7.0342e+11)
IC Loss: tensor(0.4089)
                                                             NS PDE Loss: tensor(64.6244)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(4.1357e-12)
s: tensor(7.0342e+11)
Iteration: 2000
                      Total Loss: tensor(4.8040e+11)
                                                             NS PDE Loss: tensor(64.4513)
IC Loss: tensor(0.4092)
                              BC Loss: tensor(2.6867e-12)
                                                                                            Mv Bdry Los
s: tensor(4.8039e+11)
Iteration: 2200
                      Total Loss: tensor(6.7543e+11)
                                                             NS PDE Loss: tensor(64.5512)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4110)
                              BC Loss: tensor(1.9635e-12)
s: tensor(6.7542e+11)
Iteration: 2400
                     Total Loss: tensor(5.5023e+11)
IC Loss: tensor(0.4113)
                              BC Loss: tensor(1,2579e-12)
                                                             NS PDE Loss: tensor(64.6081)
                                                                                            Mv Bdry Los
s: tensor(5.5022e+11)
                      Total Loss: tensor(4.8628e+11)
Iteration: 2600
IC Loss: tensor(0.4122)
                                                             NS PDE Loss: tensor(64.5408)
                              BC Loss: tensor(1,2051e-12)
                                                                                            Mv Bdry Los
s: tensor(4.8627e+11)
Iteration: 2800
                      Total Loss: tensor(5.8399e+11)
                                                             NS PDE Loss: tensor(64.4241)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4138)
                              BC Loss: tensor(1.1124e-12)
s: tensor(5.8398e+11)
Iteration: 3000
                      Total Loss: tensor(4.0947e+11)
IC Loss: tensor(0.4144)
                                                             NS PDE Loss: tensor(64.4154)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(1.3325e-12)
s: tensor(4.0947e+11)
Iteration: 3200
                       Total Loss: tensor(3.2653e+11)
                                                             NS PDE Loss: tensor(64.4376)
IC Loss: tensor(0.4148)
                              BC Loss: tensor(2.1594e-12)
                                                                                            Mv Bdry Los
s: tensor(3.2652e+11)
Iteration: 3400
                      Total Loss: tensor(2.9285e+11)
```

```
BC Loss: tensor(4.0030e-12)
                                                             NS PDE Loss: tensor(64.5347) Mv Bdry Los
IC Loss: tensor(0.4155)
s: tensor(2.9284e+11)
Iteration: 3600
                      Total Loss: tensor(2.7374e+11)
IC Loss: tensor(0.4160)
                              BC Loss: tensor(6.3015e-12)
                                                                                            Mv Bdry Los
                                                             NS PDE Loss: tensor(64.6243)
s: tensor(2.7374e+11)
Iteration: 3800
                      Total Loss: tensor(2.4979e+11)
                                                             NS PDE Loss: tensor(64.7320)
IC Loss: tensor(0.4167)
                               BC Loss: tensor(7.6091e-12)
                                                                                            Mv Bdry Los
s: tensor(2.4978e+11)
Iteration: 4000
                       Total Loss: tensor(2.3173e+11)
                                                             NS PDE Loss: tensor(64.8806)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4174)
                              BC Loss: tensor(1.0311e-11)
s: tensor(2.3173e+11)
Iteration: 4200
                       Total Loss: tensor(2.0393e+11)
                                                             NS PDE Loss: tensor(65.0325)
IC Loss: tensor(0.4185)
                              BC Loss: tensor(1.7848e-11)
                                                                                            Mv Bdry Los
s: tensor(2.0393e+11)
Iteration: 4400
                       Total Loss: tensor(1.8340e+11)
                                                             NS PDE Loss: tensor(65.1628)
IC Loss: tensor(0.4194)
                               BC Loss: tensor(2.0080e-11)
                                                                                            Mv Bdry Los
s: tensor(1.8340e+11)
Iteration: 4600
                      Total Loss: tensor(1.6734e+11)
                                                             NS PDE Loss: tensor(65.3014)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4202)
                               BC Loss: tensor(2.3970e-11)
s: tensor(1.6733e+11)
Iteration: 4800
                       Total Loss: tensor(1.5304e+11)
                                                             NS PDE Loss: tensor(65.3954)
IC Loss: tensor(0.4212)
                              BC Loss: tensor(2.8845e-11)
                                                                                            Mv Bdry Los
s: tensor(1.5303e+11)
Iteration: 5000
                       Total Loss: tensor(1.4609e+11)
                                                             NS PDE Loss: tensor(65.4339)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4222)
                              BC Loss: tensor(3.3060e-11)
s: tensor(1.4608e+11)
Iteration: 5200
                      Total Loss: tensor(1.3687e+11)
IC Loss: tensor(0.4229)
                              BC Loss: tensor(4.3778e-11)
                                                             NS PDE Loss: tensor(65.4841)
                                                                                            Mv Bdry Los
s: tensor(1.3687e+11)
Iteration: 5400
                       Total Loss: tensor(1.2981e+11)
IC Loss: tensor(0.4235)
                                                             NS PDE Loss: tensor(65.5340)
                               BC Loss: tensor(5,2999e-11)
                                                                                            Mv Bdry Los
s: tensor(1.2980e+11)
Iteration: 5600
                       Total Loss: tensor(1,2300e+11)
                                                             NS PDE Loss: tensor(65.5513)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4240)
                              BC Loss: tensor(6.0135e-11)
s: tensor(1.2299e+11)
Iteration: 5800
                       Total Loss: tensor(1.1685e+11)
                                                             NS PDE Loss: tensor(65.5589)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4244)
                               BC Loss: tensor(7.3824e-11)
s: tensor(1.1684e+11)
Iteration: 6000
                       Total Loss: tensor(1.1314e+11)
                                                             NS PDE Loss: tensor(65.5506)
IC Loss: tensor(0.4250)
                              BC Loss: tensor(8.7009e-11)
                                                                                            Mv Bdry Los
s: tensor(1.1313e+11)
Iteration: 6200
                       Total Loss: tensor(9.7785e+10)
```

<pre>IC Loss: tensor(0.4254) s: tensor(9.7778e+10)</pre>	BC Loss: tensor(9.3300e-11)	NS PDE Loss:	tensor(65.5512)	Mv Bdry Los
Iteration: 6400 Tota	l Loss: tensor(8.4534e+10)			
	BC Loss: tensor(9.8084e-11)	NS PDE Loss:	tensor(65.4892)	Mv Bdry Los
s: tensor(8.4528e+10)				·
Iteration: 6600 Tota	l Loss: tensor(7.4817e+10)			
<pre>IC Loss: tensor(0.4252)</pre>	BC Loss: tensor(1.1002e-10)	NS PDE Loss:	tensor(65.4547)	Mv Bdry Los
s: tensor(7.4810e+10)				
Iteration: 6800 Tota	l Loss: tensor(6.8553e+10)			
<pre>IC Loss: tensor(0.4257)</pre>	BC Loss: tensor(1.1805e-10)	NS PDE Loss:	tensor(65.4009)	Mv Bdry Los
s: tensor(6.8546e+10)				
Iteration: 7000 Tota	l Loss: tensor(6.6095e+10)			
<pre>IC Loss: tensor(0.4264)</pre>	BC Loss: tensor(1.3139e-10)	NS PDE Loss:	tensor(65.3505)	Mv Bdry Los
s: tensor(6.6088e+10)				
Iteration: 7200 Tota				
	BC Loss: tensor(1.4507e-10)	NS PDE Loss:	tensor(65.3110)	Mv Bdry Los
s: tensor(6.1785e+10)				
Iteration: 7400 Tota				
	BC Loss: tensor(1.8045e-10)	NS PDE Loss:	tensor(65.2766)	Mv Bdry Los
s: tensor(5.9814e+10)				
Iteration: 7600 Tota			(
	BC Loss: tensor(1.8311e-10)	NS PDE Loss:	tensor(65 ₂₄₇₉)	Mv Bdry Los
s: tensor(5.7976e+10)	7			
Iteration: 7800 Tota		NC DD = 1	(65.0406)	
	BC Loss: tensor(2.0471e-10)	NS PDE Loss:	tensor(65.2196)	Mv Bdry Los
s: tensor(5.6860e+10)				
	l Loss: tensor(5.7748e+10)	NC DDE L	t/CF 10F1)	Mar Dalassa La a
	BC Loss: tensor(2.1697e-10)	NS PDE LOSS:	tensor(65.1951)	Mv Bdry Los
s: tensor(5.7741e+10)	1 Lacco toncon/F F4020,110)			
Iteration: 8200 Tota		NC DDE Lacci	+oncon/65 1727)	My Dalmy Los
s: tensor(5.5486e+10)	BC Loss: tensor(2.2420e-10)	NO PUE LOSS:	tensor (03.1/3/)	MV bury LOS
Iteration: 8400 Tota	1 Lossi tonson(5 40520,10)			
	BC Loss: tensor(2.3547e-10)	NC DDE Locci	tensor(65.1539)	My Pdry Loc
s: tensor(5.4946e+10)	DC LOSS. (EliSOI (2.33476-10)	NO FUL LUSS.	(G11201 (02:1223)	MV Duly LUS
	l Loss: tensor(5.4375e+10)			
IC Loss: tensor(0.4300)	BC Loss: tensor(2.3286e-10)	NS PDF Loss:	tensor(65.1356)	Mv Bdry Los
s: tensor(5.4368e+10)	DC 2033: CC11301 (213200C 10)	NO THE LOSS.	(03:1330)	TIV Duty LOS
	l Loss: tensor(5.4296e+10)			
IC Loss: tensor(0.4304)	BC Loss: tensor(2.4175e-10)	NS PDF Loss:	tensor(65.1193)	Mv Bdry Los
s: tensor(5.4289e+10)	20 20001 (21 11/00 10)		20501 (05.11155)	bary 203
	l Loss: tensor(5.5747e+10)			

<pre>IC Loss: tensor(0.4309) s: tensor(5.5740e+10)</pre>	BC Loss:	tensor(2.5948e-10)	NS PDE Loss:	tensor(65.1051)	Mv Bdry Los
Iteration: 9200 Total	loss: tenso	or(5 /233e+10)			
IC Loss: tensor(0.4313)			NS DDE Locci	tensor(65.0909)	Mv Bdry Los
s: tensor(5.4227e+10)	DC LUSS.	telisor (2:0009e-10)	NO FDE EUSS.	(CHSOI (03:0909)	nv bury Los
Iteration: 9400 Total	loss: tenso	or(5 /508e+10)			
IC Loss: tensor(0.4318)			NS DDE Locci	tensor(65.0796)	Mv Bdry Los
s: tensor(5.4592e+10)	DC LUSS.	telisor (2:7759e-10)	NO FDE EUSS.	(CHSOI (03:0790)	nv bury Los
	locc: tenco	or(5.4482e+10)			
IC Loss: tensor(0.4323)			NS PDF Locci	tensor(65 0681)	My Bdry Los
s: tensor(5.4476e+10)	DC L033.	(2:090JC-10)	NO THE LUSS.	(03.0001)	nv bury Los
	loss: tenso	or(5.3856e+10)			
IC Loss: tensor(0.4329)			NS PDF Loss:	tensor(65.0605)	Mv Bdry Los
s: tensor(5.3849e+10)	DC 2033.	tensor (2:3040e 10)	NO THE EUGS.	(0310003)	11V Dury LOS
Iteration: 10000 Total	loss: tenso	or(5.5364e+10)			
IC Loss: tensor(0.4334)			NS PDF Loss:	tensor(65,0594)	Mv Bdry Los
s: tensor(5.5358e+10)	DC 20331	tensor (310303e 10)	113 102 20331	(0310331)	nv bary 205
Iteration: 10200 Total	loss: tenso	or(5.2543e+10)			
IC Loss: tensor(0.4337)			NS PDF Loss:	tensor(65.0476)	Mv Bdry Los
s: tensor(5.2537e+10)	20 2000.	10.130. (3101030 10)		2011301 (03101707	54. 7 203
Iteration: 10400 Total	Loss: tenso	or(5.1324e+10)			
IC Loss: tensor(0.4339)			NS PDE Loss:	tensor(65.0300)	Mv Bdry Los
s: tensor(5.1318e+10)				,	,
Iteration: 10600 Total	Loss: tenso	or(4.9534e+10)			
<pre>IC Loss: tensor(0.4341)</pre>			NS PDE Loss:	tensor(65.0096)	Mv Bdry Los
s: tensor(4.9527e+10)					,
	Loss: tenso	or(4.7724e+10)			
<pre>IC Loss: tensor(0.4342)</pre>			NS PDE Loss:	tensor(64.9892)	Mv Bdry Los
s: tensor(4.7718e+10)					•
Iteration: 11000 Total	Loss: tenso	or(4.7665e+10)			
<pre>IC Loss: tensor(0.4343)</pre>	BC Loss:	tensor(3.0311e-10)	NS PDE Loss:	tensor(64.9708)	Mv Bdry Los
s: tensor(4.7659e+10)					-
Iteration: 11200 Total	Loss: tenso	or(4.4005e+10)			
<pre>IC Loss: tensor(0.4343)</pre>	BC Loss:	tensor(3.2295e-10)	NS PDE Loss:	tensor(64.9511)	Mv Bdry Los
s: tensor(4.3998e+10)					
Iteration: 11400 Total	Loss: tenso	or(4.1939e+10)			
<pre>IC Loss: tensor(0.4343)</pre>	BC Loss:	tensor(3.1944e-10)	NS PDE Loss:	tensor(64.9315)	Mv Bdry Los
s: tensor(4.1932e+10)					
Iteration: 11600 Total	Loss: tenso	or(4.0101e+10)			
<pre>IC Loss: tensor(0.4343)</pre>	BC Loss:	tensor(2.9894e-10)	NS PDE Loss:	tensor(64.9015)	Mv Bdry Los
s: tensor(4.0094e+10)					
Iteration: 11800 Total	Loss: tenso	or(3.8946e+10)			

<pre>IC Loss: tensor(0.4345)</pre>	BC Loss:	tensor(3.0419e-10)	NS PDE Loss:	tensor(64.8640)	Mv Bdry Los
s: tensor(3.8939e+10)					
Iteration: 12000 Total					
<pre>IC Loss: tensor(0.4347)</pre>	BC Loss:	tensor(3.0749e-10)	NS PDE Loss:	tensor(64.8320)	Mv Bdry Los
s: tensor(4.0143e+10)					
Iteration: 12200 Total					
IC Loss: tensor(0.4350)	BC Loss:	tensor(3.0074e-10)	NS PDE Loss:	tensor(64.7678)	Mv Bdry Los
s: tensor(3.8199e+10)					
Iteration: 12400 Total					
<pre>IC Loss: tensor(0.4355)</pre>	BC Loss:	tensor(2.9614e-10)	NS PDE Loss:	tensor(64 . 6705)	Mv Bdry Los
s: tensor(3.7839e+10)					
		or(3.7061e+10)			
<pre>IC Loss: tensor(0.4362)</pre>	BC Loss:	tensor(3.2794e-10)	NS PDE Loss:	tensor(64 . 5677)	Mv Bdry Los
s: tensor(3.7055e+10)					
Iteration: 12800 Total					
<pre>IC Loss: tensor(0.4373)</pre>	BC Loss:	tensor(3.3188e-10)	NS PDE Loss:	tensor(64 . 4134)	Mv Bdry Los
s: tensor(3.6085e+10)					
Iteration: 13000 Total					
<pre>IC Loss: tensor(0.4387)</pre>	BC Loss:	tensor(3.6222e-10)	NS PDE Loss:	tensor(64 . 1195)	Mv Bdry Los
s: tensor(3.6033e+10)					
Iteration: 13200 Total					
IC Loss: tensor(0.4404)	BC Loss:	tensor(3.6148e-10)	NS PDE Loss:	tensor(63.8008)	Mv Bdry Los
s: tensor(3.3091e+10)					
Iteration: 13400 Total					
<pre>IC Loss: tensor(0.4431)</pre>	BC Loss:	tensor(3.5942e-10)	NS PDE Loss:	tensor(63 . 4168)	Mv Bdry Los
s: tensor(2.9748e+10)					
		or(2.5268e+10)			
<pre>IC Loss: tensor(0.4477)</pre>	BC Loss:	tensor(3.6932e-10)	NS PDE Loss:	tensor(63 . 1016)	Mv Bdry Los
s: tensor(2.5262e+10)					
Iteration: 13800 Total					
<pre>IC Loss: tensor(0.4540)</pre>	BC Loss:	tensor(3.8470e-10)	NS PDE Loss:	tensor(63 . 0074)	Mv Bdry Los
s: tensor(2.1083e+10)					
Iteration: 14000 Total		-			
<pre>IC Loss: tensor(0.4591)</pre>	BC Loss:	tensor(3.7245e-10)	NS PDE Loss:	tensor(63.0611)	Mv Bdry Los
s: tensor(2.1549e+10)					
		or(2.2133e+10)			
<pre>IC Loss: tensor(0.4643)</pre>	BC Loss:	tensor(3.4631e-10)	NS PDE Loss:	tensor(63.0922)	Mv Bdry Los
s: tensor(2.2126e+10)					
		or(2.2319e+10)			
<pre>IC Loss: tensor(0.4690)</pre>	BC Loss:	tensor(3.3442e-10)	NS PDE Loss:	tensor(63.0512)	Mv Bdry Los
s: tensor(2.2313e+10)					
Iteration: 14600 Total	Loss: tenso	or(2.1075e+10)			

<pre>IC Loss: tensor(0.4739)</pre>	BC Loss:	tensor(3.1277e-10)	NS PDE Loss:	tensor(62.9724)	Mv Bdry Los
s: tensor(2.1069e+10)					
Iteration: 14800 Total	Loss: tenso	or(1.9430e+10)			
<pre>IC Loss: tensor(0.4764)</pre>	BC Loss:	tensor(3.1315e-10)	NS PDE Loss:	tensor(62 . 9318)	Mv Bdry Los
s: tensor(1.9424e+10)					
Iteration: 15000 Total	Loss: tenso	or(1.9719e+10)			
<pre>IC Loss: tensor(0.4771)</pre>	BC Loss:	tensor(2.8009e-10)	NS PDE Loss:	tensor(62 . 9024)	Mv Bdry Los
s: tensor(1.9713e+10)					
Iteration: 15200 Total	Loss: tenso	or(1.8274e+10)			
<pre>IC Loss: tensor(0.4772)</pre>	BC Loss:	tensor(2.7553e-10)	NS PDE Loss:	tensor(62.8823)	Mv Bdry Los
s: tensor(1.8268e+10)					
Iteration: 15400 Total	Loss: tenso	or(1.7911e+10)			
<pre>IC Loss: tensor(0.4773)</pre>	BC Loss:	tensor(2.6091e-10)	NS PDE Loss:	tensor(62.8492)	Mv Bdry Los
s: tensor(1.7905e+10)					
Iteration: 15600 Total	Loss: tenso	or(1.7465e+10)			
<pre>IC Loss: tensor(0.4773)</pre>	BC Loss:	tensor(2.3997e-10)	NS PDE Loss:	tensor(62.8138)	Mv Bdry Los
s: tensor(1.7459e+10)					
Iteration: 15800 Total					
<pre>IC Loss: tensor(0.4773)</pre>	BC Loss:	tensor(2.3977e-10)	NS PDE Loss:	tensor(62.7864)	Mv Bdry Los
s: tensor(1.7228e+10)					
Iteration: 16000 Total					
<pre>IC Loss: tensor(0.4774)</pre>	BC Loss:	tensor(2.3969e-10)	NS PDE Loss:	tensor(62.7662)	Mv Bdry Los
s: tensor(1.7810e+10)					
Iteration: 16200 Total					
<pre>IC Loss: tensor(0.4774)</pre>	BC Loss:	tensor(2.4215e-10)	NS PDE Loss:	tensor(62.7508)	Mv Bdry Los
s: tensor(1.6250e+10)					
		or(1.6023e+10)			
<pre>IC Loss: tensor(0.4774)</pre>	BC Loss:	tensor(2.5059e-10)	NS PDE Loss:	tensor(62.7359)	Mv Bdry Los
s: tensor(1.6017e+10)					
Iteration: 16600 Total					
<pre>IC Loss: tensor(0.4774)</pre>	BC Loss:	tensor(2.3917e-10)	NS PDE Loss:	tensor(62 . 7256)	Mv Bdry Los
s: tensor(1.6192e+10)					
Iteration: 16800 Total					
<pre>IC Loss: tensor(0.4774)</pre>	BC Loss:	tensor(1.9831e-10)	NS PDE Loss:	tensor(62.7190)	Mv Bdry Los
s: tensor(1.5793e+10)					
		or(1.6681e+10)			
<pre>IC Loss: tensor(0.4775)</pre>	BC Loss:	tensor(2.1035e-10)	NS PDE Loss:	tensor(62.7139)	Mv Bdry Los
s: tensor(1.6675e+10)					
		or(1.5057e+10)			
IC Loss: tensor(0.4774)	BC Loss:	tensor(2.1540e-10)	NS PDE Loss:	tensor(62.7117)	Mv Bdry Los
s: tensor(1.5051e+10)	_	4			
Iteration: 17400 Total	Loss: tenso	or(1.5271e+10)			

```
IC Loss: tensor(0.4775)
                               BC Loss: tensor(2.1080e-10)
                                                              NS PDE Loss: tensor(62.7106) Mv Bdry Los
s: tensor(1.5265e+10)
Iteration: 17600
                       Total Loss: tensor(1.5042e+10)
                                                              NS PDE Loss: tensor(62.7110)
IC Loss: tensor(0.4775)
                               BC Loss: tensor(1.8524e-10)
                                                                                             Mv Bdry Los
s: tensor(1.5036e+10)
Iteration: 17800
                       Total Loss: tensor(1.5155e+10)
                                                              NS PDE Loss: tensor(62.7133)
IC Loss: tensor(0.4775)
                               BC Loss: tensor(2.0034e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5148e+10)
Iteration: 18000
                       Total Loss: tensor(1.6361e+10)
                                                              NS PDE Loss: tensor(62.7173)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4775)
                               BC Loss: tensor(2.0432e-10)
s: tensor(1.6355e+10)
Iteration: 18200
                       Total Loss: tensor(1.5085e+10)
IC Loss: tensor(0.4774)
                               BC Loss: tensor(2.0390e-10)
                                                              NS PDE Loss: tensor(62.7219)
                                                                                              Mv Bdry Los
s: tensor(1.5078e+10)
Iteration: 18400
                       Total Loss: tensor(1.5374e+10)
                                                              NS PDE Loss: tensor(62.7285)
IC Loss: tensor(0.4774)
                               BC Loss: tensor(1.7562e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5367e+10)
Iteration: 18600
                       Total Loss: tensor(1.5653e+10)
IC Loss: tensor(0.4774)
                                                              NS PDE Loss: tensor(62.7328)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.7270e-10)
s: tensor(1.5646e+10)
Iteration: 18800
                       Total Loss: tensor(1.5681e+10)
                                                              NS PDE Loss: tensor(62.7348)
IC Loss: tensor(0.4774)
                               BC Loss: tensor(1.6980e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5675e+10)
Iteration: 19000
                       Total Loss: tensor(1,6251e+10)
                                                              NS PDE Loss: tensor(62.7380)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4775)
                               BC Loss: tensor(1.6698e-10)
s: tensor(1.6245e+10)
Iteration: 19200
                       Total Loss: tensor(1.5307e+10)
IC Loss: tensor(0.4765)
                               BC Loss: tensor(1.5880e-10)
                                                              NS PDE Loss: tensor(62.7420)
                                                                                              Mv Bdry Los
s: tensor(1.5301e+10)
Iteration: 19400
                       Total Loss: tensor(1.4906e+10)
IC Loss: tensor(0.4764)
                                                              NS PDE Loss: tensor(62.7467)
                               BC Loss: tensor(1.6077e-10)
                                                                                              Mv Bdry Los
s: tensor(1.4900e+10)
Iteration: 19600
                       Total Loss: tensor(1.5091e+10)
                                                              NS PDE Loss: tensor(62.7491)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4764)
                               BC Loss: tensor(1.5607e-10)
s: tensor(1.5085e+10)
Iteration: 19800
                       Total Loss: tensor(1.4899e+10)
                                                              NS PDE Loss: tensor(62.7494)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4764)
                               BC Loss: tensor(1.5584e-10)
s: tensor(1.4893e+10)
Iteration: 20000
                       Total Loss: tensor(1.5950e+10)
                                                              NS PDE Loss: tensor(62.7520)
IC Loss: tensor(0.4764)
                               BC Loss: tensor(1.5503e-10)
                                                                                             Mv Bdry Los
s: tensor(1.5944e+10)
Current Final Time: 0.1 Current Learning Rate: 0.0001
```

```
Iteration: 200 Total Loss: tensor(1.4095e+12)
                                                              NS PDE Loss: tensor(65.4771) Mv Bdry Los
IC Loss: tensor(0.4856)
                               BC Loss: tensor(1.0915e-10)
s: tensor(1.4095e+12)
Iteration: 400 Total Loss: tensor(7.9181e+11)
IC Loss: tensor(0.4761)
                               BC Loss: tensor(9.0181e-11)
                                                              NS PDE Loss: tensor(65,4465)
                                                                                             Mv Bdry Los
s: tensor(7.9180e+11)
Iteration: 600 Total Loss: tensor(6.0227e+11)
IC Loss: tensor(0.4701)
                               BC Loss: tensor(7.8848e-11)
                                                              NS PDE Loss: tensor(65.4350)
                                                                                             Mv Bdry Los
s: tensor(6.0226e+11)
Iteration: 800 Total Loss: tensor(4.7488e+11)
                                                              NS PDE Loss: tensor(65.2530)
IC Loss: tensor(0.4654)
                               BC Loss: tensor(8.6566e-11)
                                                                                             Mv Bdry Los
s: tensor(4.7488e+11)
Iteration: 1000
                       Total Loss: tensor(4.1206e+11)
                                                              NS PDE Loss: tensor(65.1441)
IC Loss: tensor(0.4593)
                               BC Loss: tensor(8.0913e-11)
                                                                                             Mv Bdry Los
s: tensor(4.1205e+11)
Iteration: 1200
                       Total Loss: tensor(3.6885e+11)
IC Loss: tensor(0.4549)
                               BC Loss: tensor(8.1855e-11)
                                                              NS PDE Loss: tensor(65.0451)
                                                                                             Mv Bdry Los
s: tensor(3.6885e+11)
Iteration: 1400
                       Total Loss: tensor(3.4586e+11)
                                                              NS PDE Loss: tensor(65.0005)
IC Loss: tensor(0.4530)
                               BC Loss: tensor(8.1291e-11)
                                                                                             Mv Bdry Los
s: tensor(3.4586e+11)
Iteration: 1600
                       Total Loss: tensor(3.3261e+11)
IC Loss: tensor(0.4515)
                               BC Loss: tensor(8.2202e-11)
                                                              NS PDE Loss: tensor(64.9391)
                                                                                             Mv Bdry Los
s: tensor(3.3260e+11)
Iteration: 1800
                       Total Loss: tensor(3.2571e+11)
                                                              NS PDE Loss: tensor(64.9041)
IC Loss: tensor(0.4506)
                               BC Loss: tensor(8.0299e-11)
                                                                                             Mv Bdry Los
s: tensor(3.2570e+11)
Iteration: 2000
                       Total Loss: tensor(3.1704e+11)
                                                              NS PDE Loss: tensor(64.8780)
IC Loss: tensor(0.4489)
                               BC Loss: tensor(8.5499e-11)
                                                                                             Mv Bdry Los
s: tensor(3.1704e+11)
Iteration: 2200
                       Total Loss: tensor(3.0487e+11)
IC Loss: tensor(0.4490)
                               BC Loss: tensor(8.5866e-11)
                                                              NS PDE Loss: tensor(64.8707)
                                                                                             Mv Bdry Los
s: tensor(3.0487e+11)
Iteration: 2400
                       Total Loss: tensor(3.3631e+11)
IC Loss: tensor(0.4509)
                               BC Loss: tensor(8.4168e-11)
                                                              NS PDE Loss: tensor(64.9131)
                                                                                             Mv Bdry Los
s: tensor(3.3630e+11)
Iteration: 2600
                       Total Loss: tensor(3.4283e+11)
IC Loss: tensor(0.4484)
                               BC Loss: tensor(9.3671e-11)
                                                              NS PDE Loss: tensor(64.8645)
                                                                                             Mv Bdry Los
s: tensor(3.4283e+11)
Iteration: 2800
                       Total Loss: tensor(2.9611e+11)
                                                              NS PDE Loss: tensor(64.8237)
IC Loss: tensor(0.4485)
                               BC Loss: tensor(8.9753e-11)
                                                                                             Mv Bdry Los
s: tensor(2.9611e+11)
```

```
Iteration: 3000
                       Total Loss: tensor(2.9586e+11)
                                                             NS PDE Loss: tensor(64.8076) Mv Bdry Los
IC Loss: tensor(0.4481)
                               BC Loss: tensor(8,4249e-11)
s: tensor(2.9586e+11)
Iteration: 3200
                       Total Loss: tensor(2.8356e+11)
IC Loss: tensor(0.4480)
                                                              NS PDE Loss: tensor(64.7942)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(8,0068e-11)
s: tensor(2.8355e+11)
Iteration: 3400
                       Total Loss: tensor(2.8431e+11)
IC Loss: tensor(0.4476)
                               BC Loss: tensor(7.7369e-11)
                                                             NS PDE Loss: tensor(64.7688)
                                                                                             Mv Bdry Los
s: tensor(2.8431e+11)
Iteration: 3600
                       Total Loss: tensor(2.7537e+11)
                                                             NS PDE Loss: tensor(64.7321)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4472)
                               BC Loss: tensor(8.0327e-11)
s: tensor(2.7537e+11)
Iteration: 3800
                       Total Loss: tensor(3.0947e+11)
                                                             NS PDE Loss: tensor(64.6861)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4468)
                               BC Loss: tensor(7.7144e-11)
s: tensor(3.0946e+11)
Iteration: 4000
                       Total Loss: tensor(2.6685e+11)
                                                             NS PDE Loss: tensor(64.6468)
IC Loss: tensor(0.4463)
                               BC Loss: tensor(7.5763e-11)
                                                                                             Mv Bdry Los
s: tensor(2.6684e+11)
Iteration: 4200
                       Total Loss: tensor(3.3959e+11)
                                                             NS PDE Loss: tensor(64.6220)
IC Loss: tensor(0.4451)
                               BC Loss: tensor(7.4956e-11)
                                                                                             Mv Bdry Los
s: tensor(3.3958e+11)
Iteration: 4400
                     Total Loss: tensor(3,2611e+11)
IC Loss: tensor(0.4447)
                               BC Loss: tensor(7.6272e-11)
                                                              NS PDE Loss: tensor(64.5952)
                                                                                             Mv Bdry Los
s: tensor(3.2611e+11)
Iteration: 4600
                       Total Loss: tensor(2.5361e+11)
                                                             NS PDE Loss: tensor(64.5515)
IC Loss: tensor(0.4451)
                               BC Loss: tensor(7.8677e-11)
                                                                                             Mv Bdry Los
s: tensor(2.5360e+11)
Iteration: 4800
                       Total Loss: tensor(2.4386e+11)
                                                              NS PDE Loss: tensor(64.5150)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4449)
                               BC Loss: tensor(7.4728e-11)
s: tensor(2.4386e+11)
Iteration: 5000
                       Total Loss: tensor(2.5218e+11)
                                                              NS PDE Loss: tensor(64.4949)
IC Loss: tensor(0.4453)
                               BC Loss: tensor(7.9387e-11)
                                                                                             Mv Bdry Los
s: tensor(2.5218e+11)
Iteration: 5200
                       Total Loss: tensor(2.4706e+11)
                                                              NS PDE Loss: tensor(64.4846)
IC Loss: tensor(0.4454)
                               BC Loss: tensor(8.2279e-11)
                                                                                             Mv Bdry Los
s: tensor(2.4705e+11)
                       Total Loss: tensor(2.3479e+11)
Iteration: 5400
IC Loss: tensor(0.4455)
                               BC Loss: tensor(7.5514e-11)
                                                             NS PDE Loss: tensor(64.4755)
                                                                                             Mv Bdry Los
s: tensor(2.3478e+11)
Iteration: 5600
                       Total Loss: tensor(2.2657e+11)
                                                             NS PDE Loss: tensor(64.4730)
IC Loss: tensor(0.4455)
                               BC Loss: tensor(7.7429e-11)
                                                                                             Mv Bdry Los
s: tensor(2.2657e+11)
```

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Iteration: 5800
                       Total Loss: tensor(2.2921e+11)
                                                             NS PDE Loss: tensor(64.4982) Mv Bdry Los
IC Loss: tensor(0.4452)
                               BC Loss: tensor(8,6827e-11)
s: tensor(2.2920e+11)
Iteration: 6000
                      Total Loss: tensor(2.0922e+11)
                                                             NS PDE Loss: tensor(64.4831)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4457)
                               BC Loss: tensor(8.4566e-11)
s: tensor(2.0921e+11)
Iteration: 6200
                       Total Loss: tensor(2.2389e+11)
IC Loss: tensor(0.4467)
                               BC Loss: tensor(8,4180e-11)
                                                             NS PDE Loss: tensor(64.4667)
                                                                                             Mv Bdry Los
s: tensor(2.2389e+11)
Iteration: 6400
                       Total Loss: tensor(2.0634e+11)
                                                             NS PDE Loss: tensor(64.4414)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4467)
                               BC Loss: tensor(7.7942e-11)
s: tensor(2.0633e+11)
Iteration: 6600
                       Total Loss: tensor(2.0103e+11)
                                                             NS PDE Loss: tensor(64.4335)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4469)
                               BC Loss: tensor(8.3092e-11)
s: tensor(2.0103e+11)
Iteration: 6800
                       Total Loss: tensor(1.9547e+11)
                                                             NS PDE Loss: tensor(64.4323)
IC Loss: tensor(0.4469)
                               BC Loss: tensor(7.8616e-11)
                                                                                             Mv Bdry Los
s: tensor(1.9546e+11)
Iteration: 7000
                       Total Loss: tensor(1.8371e+11)
                                                             NS PDE Loss: tensor(64.4433)
IC Loss: tensor(0.4465)
                              BC Loss: tensor(8.3940e-11)
                                                                                             Mv Bdry Los
s: tensor(1.8370e+11)
Iteration: 7200
                      Total Loss: tensor(1.7285e+11)
IC Loss: tensor(0.4465)
                               BC Loss: tensor(8.7908e-11)
                                                             NS PDE Loss: tensor(64.4266)
                                                                                             Mv Bdry Los
s: tensor(1.7284e+11)
Iteration: 7400
                       Total Loss: tensor(1.5277e+11)
                                                             NS PDE Loss: tensor(64.4613)
IC Loss: tensor(0.4460)
                               BC Loss: tensor(9.3072e-11)
                                                                                             Mv Bdry Los
s: tensor(1.5277e+11)
Iteration: 7600
                       Total Loss: tensor(1.3300e+11)
                                                             NS PDE Loss: tensor(64.5136)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4449)
                              BC Loss: tensor(9.7363e-11)
s: tensor(1.3299e+11)
Iteration: 7800
                       Total Loss: tensor(1.1813e+11)
                                                             NS PDE Loss: tensor(64.5156)
IC Loss: tensor(0.4442)
                               BC Loss: tensor(1.0187e-10)
                                                                                             Mv Bdry Los
s: tensor(1.1812e+11)
Iteration: 8000
                       Total Loss: tensor(1.0306e+11)
IC Loss: tensor(0.4434)
                                                             NS PDE Loss: tensor(64.5558)
                               BC Loss: tensor(1.0050e-10)
                                                                                             Mv Bdry Los
s: tensor(1.0305e+11)
                       Total Loss: tensor(8.1492e+10)
Iteration: 8200
IC Loss: tensor(0.4401)
                              BC Loss: tensor(1.0250e-10)
                                                             NS PDE Loss: tensor(64.5506)
                                                                                             Mv Bdry Los
s: tensor(8.1486e+10)
Iteration: 8400
                       Total Loss: tensor(6.9385e+10)
                                                             NS PDE Loss: tensor(64.5241)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4390)
                               BC Loss: tensor(1.0010e-10)
s: tensor(6.9379e+10)
```

<pre>Iteration: 8600</pre>			
IC Loss: tensor(0.4384) BC Loss: tensor(8.5575e-11)	NS PDE Loss:	tensor(64.5156)	Mv Bdry Los
s: tensor(6.1255e+10)			·
<pre>Iteration: 8800</pre>			
IC Loss: tensor(0.4378) BC Loss: tensor(8.3894e-11)	NS PDE Loss:	tensor(64,5198)	Mv Bdry Los
s: tensor(5.2333e+10)			, ,
Iteration: 9000 Total Loss: tensor(4.7963e+10)			
IC Loss: tensor(0.4379) BC Loss: tensor(8.5297e-11)	NS PDF Loss:	tensor(64.5279)	Mv Bdry Los
s: tensor(4.7956e+10)			20., 200
Iteration: 9200 Total Loss: tensor(4.9927e+10)			
	NS PDF Loss:	tensor(64.6009)	Mv Bdry Los
s: tensor(4.9921e+10)	113 102 20331	tensor (0110003)	nv bary 205
Iteration: 9400 Total Loss: tensor(4.7395e+10)			
IC Loss: tensor(0.4363) BC Loss: tensor(7.9288e-11)	NS PDF Loss:	tensor(64 5894)	Mv Bdry Los
s: tensor(4.7389e+10)	NO THE EUGGS.	(CH301 (0413034)	TIV Duty LOS
Iteration: 9600 Total Loss: tensor(4.1904e+10)			
IC Loss: tensor(0.4355) BC Loss: tensor(8.4800e-11)	NS DDF Locci	tencor(64 6116)	Mv Bdry Los
s: tensor(4.1897e+10)	NO FUL LUSS.	(04:0110)	nv bury Los
Iteration: 9800 Total Loss: tensor(3.8734e+10)			
IC Loss: tensor(0.4351) BC Loss: tensor(8.8726e-11)	NC DDE Local	toncor(6/ 6100)	Mv Bdry Los
s: tensor(3.8728e+10)	NO PUE LUSS:	(04.0100)	MV bully LUS
Iteration: 10000 Total Loss: tensor(2.7673e+10)			
	NC DDE Local	toncor(64 6176)	My Pdry Loc
IC Loss: tensor(0.4344) BC Loss: tensor(9.6051e-11)	NS PUE LOSS:	tensor (04.01/0)	MV Dury LOS
s: tensor(2.7666e+10)			
Iteration: 10200 Total Loss: tensor(3.2424e+10)	NC DDE Lacas	+(C4 C224)	Mr. Dalas, Laa
IC Loss: tensor(0.4351) BC Loss: tensor(1.0479e-10)	NS PDE LOSS:	tensor(64.6234)	Mv Bdry Los
s: tensor(3.2418e+10)			
Iteration: 10400 Total Loss: tensor(2.5739e+10)	NC DDE L	t (C4 C270)	Mar Dalassa Lasa
	NS PDE LOSS:	tensor(64 . 6370)	Mv Bdry Los
s: tensor(2.5733e+10)			
Iteration: 10600 Total Loss: tensor(2.5041e+10)		. (24.2241)	
IC Loss: tensor(0.4353) BC Loss: tensor(9.9968e-11)	NS PDE Loss:	tensor(64.6244)	Mv Bdry Los
s: tensor(2.5035e+10)			
Iteration: 10800 Total Loss: tensor(2.3331e+10)			
IC Loss: tensor(0.4355) BC Loss: tensor(1.0281e-10)	NS PDE Loss:	tensor(64.6110)	Mv Bdry Los
s: tensor(2.3325e+10)			
Iteration: 11000 Total Loss: tensor(2.5047e+10)			
IC Loss: tensor(0.4362) BC Loss: tensor(1.1205e-10)	NS PDE Loss:	tensor(64 . 6295)	Mv Bdry Los
s: tensor(2.5041e+10)			
Iteration: 11200 Total Loss: tensor(2.5829e+10)			
IC Loss: tensor(0.4363) BC Loss: tensor(1.1290e-10)	NS PDE Loss:	tensor(64 . 6200)	Mv Bdry Los
s: tensor(2.5822e+10)			

<pre>Iteration: 11400 Total Loss: tensor(2.2599e+10)</pre>	
IC Loss: tensor(0.4365) BC Loss: tensor(1.1346e-10) NS PDE Loss: tensor(64.6112) Mv Bo	dry Los
s: tensor(2.2592e+10)	
<pre>Iteration: 11600 Total Loss: tensor(2.4296e+10)</pre>	
	dry Los
s: tensor(2.4290e+10)	,
Iteration: 11800 Total Loss: tensor(2.2449e+10)	
	dry Los
s: tensor(2.2443e+10)	ury Los
Iteration: 12000 Total Loss: tensor(2.0471e+10)	مما يسلم
	dry Los
s: tensor(2.0465e+10)	
Iteration: 12200 Total Loss: tensor(1.8032e+10)	
	dry Los
s: tensor(1.8026e+10)	
Iteration: 12400 Total Loss: tensor(2.0004e+10)	
IC Loss: tensor(0.4370) BC Loss: tensor(1.3829e-10) NS PDE Loss: tensor(64.5765) Mv Bo	dry Los
s: tensor(1.9998e+10)	
<pre>Iteration: 12600 Total Loss: tensor(2.0129e+10)</pre>	
IC Loss: tensor(0.4371) BC Loss: tensor(1.3317e-10) NS PDE Loss: tensor(64.5741) Mv Bo	dry Los
s: tensor(2.0122e+10)	
<pre>Iteration: 12800</pre>	
IC Loss: tensor(0.4373) BC Loss: tensor(1.3694e-10) NS PDE Loss: tensor(64.5730) Mv Bo	dry Los
s: tensor(2.0644e+10)	,
Iteration: 13000 Total Loss: tensor(1.6744e+10)	
IC Loss: tensor(0.4366) BC Loss: tensor(1.3767e-10) NS PDE Loss: tensor(64.5278) Mv Bo	dry Los
s: tensor(1.6737e+10)	u. y 200
Iteration: 13200 Total Loss: tensor(2.5098e+10)	
	dry Los
s: tensor(2.5092e+10)	ury Lus
Iteration: 13400 Total Loss: tensor(1.8551e+10)	
	مما يسلم
IC Loss: tensor(0.4368) BC Loss: tensor(1.4012e-10) NS PDE Loss: tensor(64.5143) Mv Bo	ary Los
s: tensor(1.8545e+10)	
Iteration: 13600 Total Loss: tensor(1.8739e+10)	
IC Loss: tensor(0.4369) BC Loss: tensor(1.3287e-10) NS PDE Loss: tensor(64.5072) Mv Bo	dry Los
s: tensor(1.8732e+10)	
Iteration: 13800 Total Loss: tensor(2.0100e+10)	
IC Loss: tensor(0.4369) BC Loss: tensor(1.2921e-10) NS PDE Loss: tensor(64.4965) Mv Bo	dry Los
s: tensor(2.0093e+10)	
Iteration: 14000 Total Loss: tensor(1.5589e+10)	
IC Loss: tensor(0.4374) BC Loss: tensor(1.3084e-10) NS PDE Loss: tensor(64.5260) Mv Bo	dry Los
s: tensor(1.5583e+10)	

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Iteration: 14200
                       Total Loss: tensor(1.6387e+10)
                                                              NS PDE Loss: tensor(64.5201)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4376)
                               BC Loss: tensor(1.3054e-10)
s: tensor(1.6380e+10)
Iteration: 14400
                       Total Loss: tensor(1.4570e+10)
IC Loss: tensor(0.4375)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.3394e-10)
                                                              NS PDE Loss: tensor(64.5080)
s: tensor(1.4563e+10)
Iteration: 14600
                       Total Loss: tensor(1.5900e+10)
                                                              NS PDE Loss: tensor(64.4776)
IC Loss: tensor(0.4372)
                               BC Loss: tensor(1.3904e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5894e+10)
Iteration: 14800
                       Total Loss: tensor(1.7707e+10)
IC Loss: tensor(0.4371)
                                                              NS PDE Loss: tensor(64.4551)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.5444e-10)
s: tensor(1.7700e+10)
Iteration: 15000
                       Total Loss: tensor(1.4818e+10)
                                                              NS PDE Loss: tensor(64.4876)
IC Loss: tensor(0.4377)
                               BC Loss: tensor(1.5083e-10)
                                                                                              Mv Bdry Los
s: tensor(1.4812e+10)
Iteration: 15200
                       Total Loss: tensor(1.3456e+10)
                                                              NS PDE Loss: tensor(64.4218)
IC Loss: tensor(0.4369)
                               BC Loss: tensor(1.5645e-10)
                                                                                              Mv Bdry Los
s: tensor(1.3449e+10)
Iteration: 15400
                       Total Loss: tensor(1.8596e+10)
                                                              NS PDE Loss: tensor(64.4053)
IC Loss: tensor(0.4364)
                               BC Loss: tensor(1.5310e-10)
                                                                                              Mv Bdry Los
s: tensor(1.8589e+10)
Iteration: 15600
                       Total Loss: tensor(1.4959e+10)
IC Loss: tensor(0.4375)
                               BC Loss: tensor(1.6062e-10)
                                                              NS PDE Loss: tensor(64.4286)
                                                                                              Mv Bdry Los
s: tensor(1.4952e+10)
Iteration: 15800
                       Total Loss: tensor(1.5339e+10)
                                                              NS PDE Loss: tensor(64.4277)
IC Loss: tensor(0.4374)
                               BC Loss: tensor(1.6499e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5333e+10)
Iteration: 16000
                       Total Loss: tensor(1.6807e+10)
                                                              NS PDE Loss: tensor(64.4227)
IC Loss: tensor(0.4374)
                               BC Loss: tensor(1.6060e-10)
                                                                                              Mv Bdry Los
s: tensor(1.6801e+10)
Iteration: 16200
                       Total Loss: tensor(1.3595e+10)
                                                              NS PDE Loss: tensor(64.4210)
IC Loss: tensor(0.4375)
                               BC Loss: tensor(1.7536e-10)
                                                                                              Mv Bdry Los
s: tensor(1.3589e+10)
Iteration: 16400
                       Total Loss: tensor(1.7794e+10)
                                                              NS PDE Loss: tensor(64.4303)
IC Loss: tensor(0.4376)
                               BC Loss: tensor(1.7897e-10)
                                                                                              Mv Bdry Los
s: tensor(1.7787e+10)
Iteration: 16600
                       Total Loss: tensor(1.4447e+10)
IC Loss: tensor(0.4380)
                               BC Loss: tensor(1.8303e-10)
                                                              NS PDE Loss: tensor(64.4370)
                                                                                              Mv Bdry Los
s: tensor(1.4441e+10)
Iteration: 16800
                       Total Loss: tensor(1.5333e+10)
                               BC Loss: tensor(1.7113e-10)
                                                              NS PDE Loss: tensor(64.4296)
IC Loss: tensor(0.4378)
                                                                                              Mv Bdry Los
s: tensor(1.5326e+10)
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Iteration: 17000
                       Total Loss: tensor(1.3737e+10)
                                                              NS PDE Loss: tensor(64.3732)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4371)
                               BC Loss: tensor(1.6596e-10)
s: tensor(1.3730e+10)
Iteration: 17200
                       Total Loss: tensor(1.7775e+10)
IC Loss: tensor(0.4375)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.6281e-10)
                                                              NS PDE Loss: tensor(64.3868)
s: tensor(1.7769e+10)
Iteration: 17400
                       Total Loss: tensor(1.7639e+10)
IC Loss: tensor(0.4376)
                               BC Loss: tensor(1.7385e-10)
                                                              NS PDE Loss: tensor(64.3865)
                                                                                              Mv Bdry Los
s: tensor(1.7632e+10)
Iteration: 17600
                       Total Loss: tensor(1.6663e+10)
IC Loss: tensor(0.4376)
                                                              NS PDE Loss: tensor(64.3836)
                               BC Loss: tensor(1.7159e-10)
                                                                                              Mv Bdry Los
s: tensor(1.6656e+10)
Iteration: 17800
                       Total Loss: tensor(1.5636e+10)
                                                              NS PDE Loss: tensor(64.3824)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4378)
                               BC Loss: tensor(1.8443e-10)
s: tensor(1.5629e+10)
Iteration: 18000
                       Total Loss: tensor(1.4162e+10)
                                                              NS PDE Loss: tensor(64.3726)
IC Loss: tensor(0.4377)
                               BC Loss: tensor(1.9357e-10)
                                                                                              Mv Bdry Los
s: tensor(1.4155e+10)
Iteration: 18200
                       Total Loss: tensor(1.4208e+10)
                                                              NS PDE Loss: tensor(64.3842)
IC Loss: tensor(0.4382)
                               BC Loss: tensor(1.8396e-10)
                                                                                              Mv Bdry Los
s: tensor(1.4202e+10)
Iteration: 18400
                       Total Loss: tensor(1.3759e+10)
IC Loss: tensor(0.4384)
                               BC Loss: tensor(1.8397e-10)
                                                              NS PDE Loss: tensor(64.3896)
                                                                                              Mv Bdry Los
s: tensor(1.3753e+10)
Iteration: 18600
                       Total Loss: tensor(1.5410e+10)
                                                              NS PDE Loss: tensor(64.3799)
IC Loss: tensor(0.4377)
                               BC Loss: tensor(1.8100e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5404e+10)
Iteration: 18800
                       Total Loss: tensor(1.2359e+10)
                                                              NS PDE Loss: tensor(64.3306)
IC Loss: tensor(0.4362)
                               BC Loss: tensor(1.6504e-10)
                                                                                              Mv Bdry Los
s: tensor(1.2353e+10)
Iteration: 19000
                       Total Loss: tensor(1.3222e+10)
                                                              NS PDE Loss: tensor(64.3719)
IC Loss: tensor(0.4383)
                               BC Loss: tensor(1.6938e-10)
                                                                                              Mv Bdry Los
s: tensor(1.3215e+10)
Iteration: 19200
                       Total Loss: tensor(1.5140e+10)
                                                              NS PDE Loss: tensor(64.3419)
IC Loss: tensor(0.4369)
                               BC Loss: tensor(1.6598e-10)
                                                                                              Mv Bdry Los
s: tensor(1.5134e+10)
Iteration: 19400
                       Total Loss: tensor(1.2455e+10)
IC Loss: tensor(0.4382)
                               BC Loss: tensor(1.6018e-10)
                                                              NS PDE Loss: tensor(64.3536)
                                                                                              Mv Bdry Los
s: tensor(1.2449e+10)
Iteration: 19600
                       Total Loss: tensor(1.2772e+10)
                                                              NS PDE Loss: tensor(64.3713)
IC Loss: tensor(0.4385)
                               BC Loss: tensor(1.5465e-10)
                                                                                              Mv Bdry Los
s: tensor(1.2765e+10)
```

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Iteration: 19800
                       Total Loss: tensor(1.4097e+10)
                               BC Loss: tensor(1.4813e-10)
                                                              NS PDE Loss: tensor(64.3711) Mv Bdry Los
IC Loss: tensor(0.4385)
s: tensor(1.4091e+10)
Iteration: 20000
                       Total Loss: tensor(1.3254e+10)
                                                              NS PDE Loss: tensor(64.3457)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4379)
                               BC Loss: tensor(1,4763e-10)
s: tensor(1.3248e+10)
Executing Pass 2
Current Final Time: 0.01 Current Learning Rate: 1e-05
Iteration: 200 Total Loss: tensor(4.8379e+11)
                                                              NS PDE Loss: tensor(64.4840)
IC Loss: tensor(0.4293)
                               BC Loss: tensor(1.4542e-10)
                                                                                             Mv Bdry Los
s: tensor(4.8378e+11)
Iteration: 400 Total Loss: tensor(2.9002e+11)
IC Loss: tensor(0.4308)
                               BC Loss: tensor(1.2676e-10)
                                                                                             Mv Bdry Los
                                                              NS PDE Loss: tensor(64.4179)
s: tensor(2.9002e+11)
Iteration: 600 Total Loss: tensor(2.2294e+11)
                               BC Loss: tensor(1.1685e-10)
                                                              NS PDE Loss: tensor(64.3726)
IC Loss: tensor(0.4315)
                                                                                             Mv Bdry Los
s: tensor(2.2293e+11)
Iteration: 800 Total Loss: tensor(1.8817e+11)
                                                              NS PDE Loss: tensor(64.3152)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4325)
                               BC Loss: tensor(1.0737e-10)
s: tensor(1.8817e+11)
Iteration: 1000
                       Total Loss: tensor(1.6332e+11)
IC Loss: tensor(0.4336)
                               BC Loss: tensor(1.0155e-10)
                                                                                             Mv Bdry Los
                                                              NS PDE Loss: tensor(64.2861)
s: tensor(1.6332e+11)
Iteration: 1200
                       Total Loss: tensor(1.4443e+11)
                                                              NS PDE Loss: tensor(64.2855)
IC Loss: tensor(0.4343)
                               BC Loss: tensor(9.4340e-11)
                                                                                             Mv Bdry Los
s: tensor(1.4442e+11)
Iteration: 1400
                       Total Loss: tensor(1,2924e+11)
IC Loss: tensor(0.4351)
                               BC Loss: tensor(9.0260e-11)
                                                              NS PDE Loss: tensor(64.3211)
                                                                                             Mv Bdry Los
s: tensor(1.2923e+11)
Iteration: 1600
                       Total Loss: tensor(1.1550e+11)
IC Loss: tensor(0.4361)
                               BC Loss: tensor(8.5414e-11)
                                                              NS PDE Loss: tensor(64.3327)
                                                                                             Mv Bdry Los
s: tensor(1.1549e+11)
Iteration: 1800
                       Total Loss: tensor(1.0516e+11)
                                                              NS PDE Loss: tensor(64.3047)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4372)
                               BC Loss: tensor(8.0159e-11)
s: tensor(1.0515e+11)
Iteration: 2000
                       Total Loss: tensor(9,6668e+10)
                                                              NS PDE Loss: tensor(64.3173)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4376)
                               BC Loss: tensor(7.2337e-11)
s: tensor(9.6662e+10)
Iteration: 2200
                       Total Loss: tensor(8.9810e+10)
IC Loss: tensor(0.4380)
                               BC Loss: tensor(6.3890e-11)
                                                              NS PDE Loss: tensor(64.3300)
                                                                                             Mv Bdry Los
s: tensor(8.9804e+10)
Iteration: 2400
                       Total Loss: tensor(8.4084e+10)
```

<pre>IC Loss: tensor(0.4382) s: tensor(8.4077e+10)</pre>	BC Loss: tens	sor(5.7622e-11) N	NS PDE Loss:	tensor(64.3223)	Mv Bdry Los
Iteration: 2600 Total	Loss: tensor(7.9	9017e+10)			
<pre>IC Loss: tensor(0.4384)</pre>			NS PDE Loss:	tensor(64.2995)	Mv Bdry Los
s: tensor(7.9011e+10)					
Iteration: 2800 Total	Loss: tensor(7.4	1492e+10)			
<pre>IC Loss: tensor(0.4386)</pre>	BC Loss: tens	sor(4.9079e-11) N	NS PDE Loss:	tensor(64.2784)	Mv Bdry Los
s: tensor(7.4486e+10)					
Iteration: 3000 Total	Loss: tensor(7.0	0829e+10)			
<pre>IC Loss: tensor(0.4388)</pre>	BC Loss: tens	sor(4.8964e-11) N	NS PDE Loss:	tensor(64.2621)	Mv Bdry Los
s: tensor(7.0822e+10)					
Iteration: 3200 Total	Loss: tensor(6.7	7643e+10)			
<pre>IC Loss: tensor(0.4390)</pre>	BC Loss: tens	sor(4.5315e-11) N	NS PDE Loss:	tensor(64.2525)	Mv Bdry Los
s: tensor(6.7636e+10)					-
Iteration: 3400 Total	Loss: tensor(6.4	1736e+10)			
<pre>IC Loss: tensor(0.4392)</pre>	BC Loss: tens	sor(4.1709e-11) N	NS PDE Loss:	tensor(64.2459)	Mv Bdry Los
s: tensor(6.4729e+10)					
Iteration: 3600 Total	Loss: tensor(6.2	2312e+10)			
<pre>IC Loss: tensor(0.4396)</pre>	BC Loss: tens	sor(3.9953e-11) N	NS PDE Loss:	tensor(64.2309)	Mv Bdry Los
s: tensor(6.2305e+10)					
Iteration: 3800 Total	Loss: tensor(5.9	9933e+10)			
<pre>IC Loss: tensor(0.4399)</pre>	BC Loss: tens	sor(3.5783e-11) N	NS PDE Loss:	tensor(64.2146)	Mv Bdry Los
s: tensor(5.9926e+10)					
Iteration: 4000 Total	Loss: tensor(5.7	7703e+10)			
<pre>IC Loss: tensor(0.4401)</pre>	BC Loss: tens	sor(3.3519e-11) N	NS PDE Loss:	tensor(64.2011)	Mv Bdry Los
s: tensor(5.7696e+10)					
Iteration: 4200 Total	Loss: tensor(5.5	5770e+10)			
<pre>IC Loss: tensor(0.4404)</pre>	BC Loss: tens	sor(3.0392e-11) N	NS PDE Loss:	tensor(64.1858)	Mv Bdry Los
s: tensor(5.5763e+10)					
Iteration: 4400 Total	Loss: tensor(5.3	3940e+10)			
<pre>IC Loss: tensor(0.4406)</pre>	BC Loss: tens	sor(2.8324e-11) N	NS PDE Loss:	tensor(64.1715)	Mv Bdry Los
s: tensor(5.3933e+10)					
Iteration: 4600 Total	Loss: tensor(5.2	2170e+10)			
<pre>IC Loss: tensor(0.4408)</pre>	BC Loss: tens	sor(2.6585e-11) N	NS PDE Loss:	tensor(64.1588)	Mv Bdry Los
s: tensor(5.2163e+10)					
Iteration: 4800 Total	Loss: tensor(5.0	0613e+10)			
<pre>IC Loss: tensor(0.4409)</pre>	BC Loss: tens	sor(2.3728e-11) N	NS PDE Loss:	tensor(64.1501)	Mv Bdry Los
s: tensor(5.0606e+10)					
Iteration: 5000 Total	Loss: tensor(5.0	0134e+10)			
<pre>IC Loss: tensor(0.4412)</pre>	BC Loss: tens	sor(2.3133e-11) N	NS PDE Loss:	tensor(64.1340)	Mv Bdry Los
s: tensor(5.0128e+10)					
Iteration: 5200 Total	Loss: tensor(4.9	9443e+10)			

<pre>IC Loss: tensor(0.4412)</pre>	BC Loss:	tensor(2.3305e-11)	NS PDE Loss:	tensor(64.1314)	Mv Bdry Los
s: tensor(4.9436e+10)					
Iteration: 5400 Total					
<pre>IC Loss: tensor(0.4413)</pre>	BC Loss:	tensor(2.3498e-11)	NS PDE Loss:	tensor(64.1295)	Mv Bdry Los
s: tensor(4.8828e+10)					
Iteration: 5600 Total	Loss: tenso	or(4.8263e+10)			
<pre>IC Loss: tensor(0.4413)</pre>	BC Loss:	tensor(2.2568e-11)	NS PDE Loss:	tensor(64.1265)	Mv Bdry Los
s: tensor(4.8256e+10)					
Iteration: 5800 Total	Loss: tenso	or(4.7687e+10)			
<pre>IC Loss: tensor(0.4413)</pre>	BC Loss:	tensor(2.2280e-11)	NS PDE Loss:	tensor(64.1248)	Mv Bdry Los
s: tensor(4.7681e+10)					
Iteration: 6000 Total	Loss: tenso	or(4.7442e+10)			
<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(2.1904e-11)	NS PDE Loss:	tensor(64.1222)	Mv Bdry Los
s: tensor(4.7436e+10)					
Iteration: 6200 Total					
<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(2.1502e-11)	NS PDE Loss:	tensor(64.1224)	Mv Bdry Los
s: tensor(4.6748e+10)					
Iteration: 6400 Total	Loss: tenso	or(4.6179e+10)			
<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(2.1595e-11)	NS PDE Loss:	tensor(64.1216)	Mv Bdry Los
s: tensor(4.6173e+10)					
Iteration: 6600 Total	Loss: tenso	or(4.5507e+10)			
<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(2.1512e-11)	NS PDE Loss:	tensor(64.1234)	Mv Bdry Los
s: tensor(4.5501e+10)					
Iteration: 6800 Total					
<pre>IC Loss: tensor(0.4415)</pre>	BC Loss:	tensor(2.1649e-11)	NS PDE Loss:	tensor(64 . 1161)	Mv Bdry Los
s: tensor(4.4902e+10)					
Iteration: 7000 Total					
<pre>IC Loss: tensor(0.4415)</pre>	BC Loss:	tensor(2.1562e-11)	NS PDE Loss:	tensor(64.1017)	Mv Bdry Los
s: tensor(4.4487e+10)					
Iteration: 7200 Total					
IC Loss: tensor(0.4416)	BC Loss:	tensor(2.1222e-11)	NS PDE Loss:	tensor(64.0883)	Mv Bdry Los
s: tensor(4.3621e+10)					
Iteration: 7400 Total		-			
<pre>IC Loss: tensor(0.4416)</pre>	BC Loss:	tensor(2.1122e-11)	NS PDE Loss:	tensor(64.0752)	Mv Bdry Los
s: tensor(4.3002e+10)					
		or(4.2518e+10)			
<pre>IC Loss: tensor(0.4417)</pre>	BC Loss:	tensor(2.0922e-11)	NS PDE Loss:	tensor(64.0623)	Mv Bdry Los
s: tensor(4.2511e+10)					
		or(4.1856e+10)			
<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(2.1170e-11)	NS PDE Loss:	tensor(64.0514)	Mv Bdry Los
s: tensor(4.1849e+10)					
Iteration: 8000 Total	Loss: tenso	or(4.1391e+10)			

IC Loss: tensor(0.4415)
Total Loss: tensor(4.0546e+10) BC Loss: tensor(2.0687e-11) NS PDE Loss: tensor(64.0360) Mv Bdry Los
IC Loss: tensor(0.4416) BC Loss: tensor(2.0687e-11) NS PDE Loss: tensor(64.0360) Mv Bdry Los s: tensor(0.540e+10) Total Loss: tensor(4.0037e+10)
Stensor(4.0540e+10)
Total Loss: tensor(4.0037e+10) RC Loss: tensor(2.0383e-11) NS PDE Loss: tensor(64.0311) Mv Bdry Los
IC Loss: tensor(0.4416)
S: tensor(4.0030e+10)
Total Loss: tensor(3.9623e+10) SC Loss: tensor(2.0086e-11) NS PDE Loss: tensor(64.0282) Mv Bdry Los
IC Loss: tensor(0.4416)
<pre>s: tensor(3.9617e+10) Iteration: 8800</pre>
<pre>Iteration: 8800</pre>
IC Loss: tensor(0.4416)
<pre>s: tensor(3.9027e+10) Iteration: 9000</pre>
<pre>Iteration: 9000</pre>
<pre>IC Loss: tensor(0.4416)</pre>
<pre>s: tensor(3.8867e+10) Iteration: 9200</pre>
<pre>Iteration: 9200</pre>
<pre>IC Loss: tensor(0.4415)</pre>
<pre>s: tensor(3.8191e+10) Iteration: 9400</pre>
<pre>Iteration: 9400</pre>
IC Loss: tensor(0.4414) BC Loss: tensor(1.9916e-11) NS PDE Loss: tensor(64.0149) Mv Bdry Los s: tensor(3.7705e+10) Iteration: 9600 Total Loss: tensor(3.7246e+10) IC Loss: tensor(0.4414) BC Loss: tensor(1.9342e-11) NS PDE Loss: tensor(64.0048) Mv Bdry Los s: tensor(3.7239e+10) Iteration: 9800 Total Loss: tensor(3.6783e+10) IC Loss: tensor(0.4417) BC Loss: tensor(1.9586e-11) NS PDE Loss: tensor(63.9941) Mv Bdry Los s: tensor(3.6776e+10)
s: tensor(3.7705e+10) Iteration: 9600
<pre>Iteration: 9600</pre>
<pre>IC Loss: tensor(0.4414)</pre>
s: tensor(3.7239e+10) Iteration: 9800
<pre>Iteration: 9800</pre>
IC Loss: tensor(0.4417) BC Loss: tensor(1.9586e-11) NS PDE Loss: tensor(63.9941) Mv Bdry Los s: tensor(3.6776e+10)
s: tensor(3.6776e+10)
IC Loss: tensor(0.4417) BC Loss: tensor(1.9694e-11) NS PDE Loss: tensor(63.9835) Mv Bdry Los
s: tensor(3.6544e+10)
Iteration: 10200 Total Loss: tensor(3.5975e+10)
IC Loss: tensor(0.4416) BC Loss: tensor(1.8876e-11) NS PDE Loss: tensor(63.9735) Mv Bdry Los
s: tensor(3.5969e+10)
Iteration: 10400 Total Loss: tensor(3.5514e+10)
IC Loss: tensor(0.4415) BC Loss: tensor(1.8883e-11) NS PDE Loss: tensor(63.9639) Mv Bdry Los
s: tensor(3.5508e+10)
<pre>Iteration: 10600</pre>
IC Loss: tensor(0.4415) BC Loss: tensor(1.8393e-11) NS PDE Loss: tensor(63.9547) Mv Bdry Los
s: tensor(3.4963e+10)

<pre>IC Loss: tensor(0.4414)</pre>	BC Loss:	tensor(1.8608e-11)	NS PDE Loss:	tensor(63.9451)	Mv Bdry Los
s: tensor(3.4617e+10)					
Iteration: 11000 Total	Loss: tenso	or(3.4561e+10)			
<pre>IC Loss: tensor(0.4413)</pre>	BC Loss:	tensor(1.8058e-11)	NS PDE Loss:	tensor(63.9358)	Mv Bdry Los
s: tensor(3.4554e+10)					
Iteration: 11200 Total	Loss: tenso	or(3.3881e+10)			
<pre>IC Loss: tensor(0.4413)</pre>	BC Loss:	tensor(1.7845e-11)	NS PDE Loss:	tensor(63 . 9287)	Mv Bdry Los
s: tensor(3.3875e+10)					
Iteration: 11400 Total	Loss: tenso	or(3.3579e+10)			
<pre>IC Loss: tensor(0.4412)</pre>	BC Loss:	tensor(1.8094e-11)	NS PDE Loss:	tensor(63.9215)	Mv Bdry Los
s: tensor(3.3573e+10)					
Iteration: 11600 Total	Loss: tenso	or(3.3088e+10)			
<pre>IC Loss: tensor(0.4412)</pre>	BC Loss:	tensor(1.7757e-11)	NS PDE Loss:	tensor(63.9130)	Mv Bdry Los
s: tensor(3.3081e+10)					
Iteration: 11800 Total	Loss: tenso	or(3.2701e+10)			
<pre>IC Loss: tensor(0.4411)</pre>	BC Loss:	tensor(1.8107e-11)	NS PDE Loss:	tensor(63.9073)	Mv Bdry Los
s: tensor(3.2694e+10)					
Iteration: 12000 Total					
<pre>IC Loss: tensor(0.4411)</pre>	BC Loss:	tensor(1.8267e-11)	NS PDE Loss:	tensor(63.9003)	Mv Bdry Los
s: tensor(3.2604e+10)					
Iteration: 12200 Total					
<pre>IC Loss: tensor(0.4410)</pre>	BC Loss:	tensor(1.8217e-11)	NS PDE Loss:	tensor(63.8945)	Mv Bdry Los
s: tensor(3.1959e+10)					
Iteration: 12400 Total					
<pre>IC Loss: tensor(0.4410)</pre>	BC Loss:	tensor(1.8086e-11)	NS PDE Loss:	tensor(63.8889)	Mv Bdry Los
s: tensor(3.1678e+10)					
		or(3.1304e+10)			
<pre>IC Loss: tensor(0.4409)</pre>	BC Loss:	tensor(1.7448e-11)	NS PDE Loss:	tensor(63.8825)	Mv Bdry Los
s: tensor(3.1297e+10)					
Iteration: 12800 Total					
<pre>IC Loss: tensor(0.4409)</pre>	BC Loss:	tensor(1.7569e-11)	NS PDE Loss:	tensor(63.8774)	Mv Bdry Los
s: tensor(3.0800e+10)					
Iteration: 13000 Total		-			
<pre>IC Loss: tensor(0.4408)</pre>	BC Loss:	tensor(1.7886e-11)	NS PDE Loss:	tensor(63.8712)	Mv Bdry Los
s: tensor(3.0982e+10)					
		or(3.0224e+10)			
<pre>IC Loss: tensor(0.4408)</pre>	BC Loss:	tensor(1.7989e-11)	NS PDE Loss:	tensor(63.8643)	Mv Bdry Los
s: tensor(3.0218e+10)					
		or(2.9829e+10)			
IC Loss: tensor(0.4407)	BC Loss:	tensor(1.7888e-11)	NS PDE Loss:	tensor(63.8579)	Mv Bdry Los
s: tensor(2.9822e+10)		/a a===			
Iteration: 13600 Total	Loss: tenso	or(2.9700e+10)			

<pre>IC Loss: tensor(0.4407)</pre>	BC Loss:	tensor(1.7917e-11)	NS PDE Loss:	tensor(63.8505)	Mv Bdry Los
s: tensor(2.9693e+10)					
Iteration: 13800 Total					
<pre>IC Loss: tensor(0.4407)</pre>	BC Loss:	tensor(1.7686e-11)	NS PDE Loss:	tensor(63.8443)	Mv Bdry Los
s: tensor(2.9457e+10)					
Iteration: 14000 Total					
<pre>IC Loss: tensor(0.4406)</pre>	BC Loss:	tensor(1.8251e-11)	NS PDE Loss:	tensor(63.8372)	Mv Bdry Los
s: tensor(2.9386e+10)					
Iteration: 14200 Total					
IC Loss: tensor(0.4406)	BC Loss:	tensor(1.8142e-11)	NS PDE Loss:	tensor(63.8317)	Mv Bdry Los
s: tensor(2.8709e+10)					
		or(2.8394e+10)		(
IC Loss: tensor(0.4406)	BC Loss:	tensor(1.8377e-11)	NS PDE Loss:	tensor(63.8254)	Mv Bdry Los
s: tensor(2.8388e+10)		(0.000)			
Iteration: 14600 Total			NC DDE I	(62,0400)	м в
IC Loss: tensor(0.4405)	BC Loss:	tensor(1.8/84e-11)	NS PDE LOSS:	tensor(63.8190)	Mv Bdry Los
s: tensor(2.8259e+10)		(2, 7002-:10)			
Iteration: 14800 Total			NC DDE Local	+anaan/62 0122\	My Dalmy Loc
IC Loss: tensor(0.4405)	BC LOSS:	tensor(1.8/80e-11)	NS PUE LOSS:	tensor(63.8132)	Mv Bdry Los
s: tensor(2.7875e+10) Iteration: 15000 Total		nn(2, 7047a+10)			
IC Loss: tensor(0.4405)			NC DDE Locci	tensor(63.8075)	Mv Bdry Los
s: tensor(2.7940e+10)	DC LUSS:	tensor(1.6778e-11)	NS PUE LOSS:	tensor(03:00/3)	MV Dury LOS
Iteration: 15200 Total	locci tonco	or(2 74910±10)			
IC Loss: tensor(0.4404)			NS DDF Locci	tensor(63.8020)	Mv Bdry Los
s: tensor(2.7474e+10)	DC LUSS.	telisor (1:9155e-11)	NO FUL LUSS.	(CHS01 (05:0020)	nv bury Los
	loss: tenso	or(2.7124e+10)			
IC Loss: tensor(0.4404)			NS PDF Loss:	tensor(63.7963)	Mv Bdry Los
s: tensor(2.7118e+10)	DC 2033.	tensor (113130c 11)	NO THE EUGST	tensor (0517505)	nv bary Los
Iteration: 15600 Total	loss: tenso	or(2.6949e+10)			
IC Loss: tensor(0.4404)			NS PDE Loss:	tensor(63,7913)	Mv Bdry Los
s: tensor(2.6942e+10)	20 2000.			(0017020)	20., 200
Iteration: 15800 Total	Loss: tenso	or(2.6768e+10)			
IC Loss: tensor(0.4404)			NS PDE Loss:	tensor(63.7863)	Mv Bdry Los
s: tensor(2.6761e+10)				,	,
	Loss: tenso	or(2.6696e+10)			
<pre>IC Loss: tensor(0.4404)</pre>	BC Loss:	tensor(1.9249e-11)	NS PDE Loss:	tensor(63.7816)	Mv Bdry Los
s: tensor(2.6689e+10)					•
Iteration: 16200 Total	Loss: tenso	or(2.6272e+10)			
<pre>IC Loss: tensor(0.4404)</pre>	BC Loss:	tensor(1.9545e-11)	NS PDE Loss:	tensor(63.7774)	Mv Bdry Los
s: tensor(2.6265e+10)					-
Iteration: 16400 Total	Loss: tenso	or(2.6088e+10)			

<pre>IC Loss: tensor(0.4404) s: tensor(2.6082e+10)</pre>	BC Loss: tensor(1.9682e-11)	NS PDE Loss:	tensor(63.7723)	Mv Bdry Los
Iteration: 16600 Total	l Loss: tensor(2.5952e+10)			
<pre>IC Loss: tensor(0.4400) s: tensor(2.5946e+10)</pre>	BC Loss: tensor(1.9784e-11)	NS PDE Loss:	tensor(63.7685)	Mv Bdry Los
Iteration: 16800 Total	l Loss: tensor(2.5735e+10)			
IC Loss: tensor(0.4400)	BC Loss: tensor(1.9952e-11)	NS PDE Loss:	tensor(63.7629)	Mv Bdry Los
s: tensor(2.5728e+10)				,
Iteration: 17000 Total	l Loss: tensor(2.5832e+10)			
<pre>IC Loss: tensor(0.4400)</pre>	BC Loss: tensor(1.9732e-11)	NS PDE Loss:	tensor(63.7593)	Mv Bdry Los
s: tensor(2.5826e+10)				,
	l Loss: tensor(2.5461e+10)			
	BC Loss: tensor(1.9387e-11)	NS PDE Loss:	tensor(63.7557)	Mv Bdry Los
s: tensor(2.5455e+10)				,
	l Loss: tensor(2.5117e+10)			
	BC Loss: tensor(1.9282e-11)	NS PDE Loss:	tensor(63.7527)	Mv Bdry Los
s: tensor(2.5111e+10)				,
Iteration: 17600 Total	l Loss: tensor(2.5097e+10)			
	BC Loss: tensor(1.9295e-11)	NS PDE Loss:	tensor(63.7487)	Mv Bdry Los
s: tensor(2.5091e+10)				,
Iteration: 17800 Total	l Loss: tensor(2.5028e+10)			
	BC Loss: tensor(1.9487e-11)	NS PDE Loss:	tensor(63.7456)	Mv Bdry Los
s: tensor(2.5021e+10)				,
Iteration: 18000 Total	l Loss: tensor(2.5005e+10)			
<pre>IC Loss: tensor(0.4401)</pre>	BC Loss: tensor(1.9295e-11)	NS PDE Loss:	tensor(63.7426)	Mv Bdry Los
s: tensor(2.4999e+10)				-
Iteration: 18200 Total	l Loss: tensor(2.4573e+10)			
<pre>IC Loss: tensor(0.4401)</pre>	BC Loss: tensor(1.9770e-11)	NS PDE Loss:	tensor(63.7385)	Mv Bdry Los
s: tensor(2.4566e+10)				
Iteration: 18400 Total	l Loss: tensor(2.4463e+10)			
<pre>IC Loss: tensor(0.4401)</pre>	BC Loss: tensor(2.0126e-11)	NS PDE Loss:	tensor(63.7357)	Mv Bdry Los
s: tensor(2.4457e+10)				
Iteration: 18600 Total	l Loss: tensor(2.4360e+10)			
<pre>IC Loss: tensor(0.4401)</pre>	BC Loss: tensor(2.0020e-11)	NS PDE Loss:	tensor(63.7325)	Mv Bdry Los
s: tensor(2.4353e+10)				
Iteration: 18800 Total	l Loss: tensor(2.4294e+10)			
<pre>IC Loss: tensor(0.4402)</pre>	BC Loss: tensor(1.9871e-11)	NS PDE Loss:	tensor(63.7293)	Mv Bdry Los
s: tensor(2.4287e+10)				
Iteration: 19000 Total	l Loss: tensor(2.4299e+10)			
<pre>IC Loss: tensor(0.4402)</pre>	BC Loss: tensor(1.9214e-11)	NS PDE Loss:	tensor(63.7256)	Mv Bdry Los
s: tensor(2.4293e+10)				
Iteration: 19200 Total	l Loss: tensor(2.3890e+10)			

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BC Loss: tensor(1.9727e-11)
                                                             NS PDE Loss: tensor(63.7237) Mv Bdry Los
IC Loss: tensor(0.4402)
s: tensor(2.3884e+10)
Iteration: 19400
                       Total Loss: tensor(2.3842e+10)
                                                             NS PDE Loss: tensor(63.7215)
IC Loss: tensor(0.4402)
                               BC Loss: tensor(1.9741e-11)
                                                                                            Mv Bdry Los
s: tensor(2.3835e+10)
Iteration: 19600
                       Total Loss: tensor(2.3700e+10)
                                                             NS PDE Loss: tensor(63.7183)
IC Loss: tensor(0.4403)
                               BC Loss: tensor(1.9413e-11)
                                                                                             Mv Bdry Los
s: tensor(2.3694e+10)
Iteration: 19800
                       Total Loss: tensor(2.3485e+10)
                                                             NS PDE Loss: tensor(63.7159)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4403)
                               BC Loss: tensor(1.9366e-11)
s: tensor(2.3478e+10)
Iteration: 20000
                       Total Loss: tensor(2.3779e+10)
IC Loss: tensor(0.4403)
                               BC Loss: tensor(1.9310e-11)
                                                             NS PDE Loss: tensor(63.7131)
                                                                                            Mv Bdry Los
s: tensor(2.3772e+10)
Current Final Time: 0.1 Current Learning Rate: 1e-05
Iteration: 200 Total Loss: tensor(2.7741e+11)
                                                             NS PDE Loss: tensor(65.0888)
IC Loss: tensor(0.4702)
                               BC Loss: tensor(1.2108e-11)
                                                                                            Mv Bdry Los
s: tensor(2.7740e+11)
Iteration: 400 Total Loss: tensor(1.8895e+11)
                                                             NS PDE Loss: tensor(64.8425)
IC Loss: tensor(0.4714)
                               BC Loss: tensor(2.7788e-11)
                                                                                            Mv Bdry Los
s: tensor(1.8894e+11)
Iteration: 600 Total Loss: tensor(1.4527e+11)
IC Loss: tensor(0.4729)
                               BC Loss: tensor(4.7717e-11)
                                                             NS PDE Loss: tensor(64.6578)
                                                                                            Mv Bdry Los
s: tensor(1.4526e+11)
Iteration: 800 Total Loss: tensor(7.3305e+10)
                                                             NS PDE Loss: tensor(64.5115)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4828)
                               BC Loss: tensor(2.4864e-11)
s: tensor(7.3298e+10)
Iteration: 1000
                      Total Loss: tensor(4.7372e+10)
                                                             NS PDE Loss: tensor(64.4114)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4833)
                               BC Loss: tensor(3.1570e-11)
s: tensor(4.7366e+10)
Iteration: 1200
                       Total Loss: tensor(3.4073e+10)
                                                             NS PDE Loss: tensor(64.3538)
IC Loss: tensor(0.4835)
                               BC Loss: tensor(3.4891e-11)
                                                                                             Mv Bdry Los
s: tensor(3.4067e+10)
Iteration: 1400
                       Total Loss: tensor(2.6790e+10)
IC Loss: tensor(0.4835)
                                                             NS PDE Loss: tensor(64.2959)
                               BC Loss: tensor(4.3518e-11)
                                                                                             Mv Bdry Los
s: tensor(2.6783e+10)
                      Total Loss: tensor(2.2386e+10)
Iteration: 1600
IC Loss: tensor(0.4842)
                              BC Loss: tensor(5,0734e-11)
                                                             NS PDE Loss: tensor(64.2535)
                                                                                            Mv Bdry Los
s: tensor(2.2380e+10)
Iteration: 1800
                       Total Loss: tensor(1.9472e+10)
                                                             NS PDE Loss: tensor(64.2297)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4842)
                               BC Loss: tensor(6.1064e-11)
s: tensor(1.9465e+10)
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Iteration: 2000
                       Total Loss: tensor(1.7461e+10)
                               BC Loss: tensor(6.5067e-11)
                                                             NS PDE Loss: tensor(64.2138) Mv Bdry Los
IC Loss: tensor(0.4843)
s: tensor(1.7455e+10)
Iteration: 2200
                      Total Loss: tensor(1.5952e+10)
IC Loss: tensor(0.4844)
                                                             NS PDE Loss: tensor(64.2009)
                                                                                            Mv Bdry Los
                               BC Loss: tensor(6.8829e-11)
s: tensor(1.5946e+10)
Iteration: 2400
                       Total Loss: tensor(1.4771e+10)
IC Loss: tensor(0.4845)
                               BC Loss: tensor(7.1931e-11)
                                                             NS PDE Loss: tensor(64.1971)
                                                                                            Mv Bdry Los
s: tensor(1.4764e+10)
Iteration: 2600
                      Total Loss: tensor(1.3856e+10)
                                                             NS PDE Loss: tensor(64.1839)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4847)
                               BC Loss: tensor(7.6426e-11)
s: tensor(1.3850e+10)
Iteration: 2800
                      Total Loss: tensor(1.3177e+10)
IC Loss: tensor(0.4850)
                                                             NS PDE Loss: tensor(64.1745)
                                                                                            Mv Bdry Los
                               BC Loss: tensor(8.1046e-11)
s: tensor(1.3171e+10)
Iteration: 3000
                       Total Loss: tensor(1.2649e+10)
                                                             NS PDE Loss: tensor(64.1750)
IC Loss: tensor(0.4854)
                               BC Loss: tensor(8.5499e-11)
                                                                                            Mv Bdry Los
s: tensor(1.2643e+10)
Iteration: 3200
                      Total Loss: tensor(1,2224e+10)
                                                             NS PDE Loss: tensor(64.1484)
IC Loss: tensor(0.4858)
                              BC Loss: tensor(8.9458e-11)
                                                                                            Mv Bdry Los
s: tensor(1.2218e+10)
Iteration: 3400
                     Total Loss: tensor(1.1826e+10)
IC Loss: tensor(0.4864)
                               BC Loss: tensor(9.0832e-11)
                                                             NS PDE Loss: tensor(64.1327)
                                                                                            Mv Bdry Los
s: tensor(1.1819e+10)
Iteration: 3600
                       Total Loss: tensor(1.1523e+10)
                                                             NS PDE Loss: tensor(64.1214)
IC Loss: tensor(0.4869)
                               BC Loss: tensor(9.4481e-11)
                                                                                            Mv Bdry Los
s: tensor(1.1517e+10)
Iteration: 3800
                      Total Loss: tensor(1.1226e+10)
                                                             NS PDE Loss: tensor(64.1145)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4874)
                              BC Loss: tensor(9.6338e-11)
s: tensor(1.1220e+10)
Iteration: 4000
                      Total Loss: tensor(1.0947e+10)
                                                             NS PDE Loss: tensor(64.0897)
IC Loss: tensor(0.4880)
                               BC Loss: tensor(9.8632e-11)
                                                                                             Mv Bdry Los
s: tensor(1.0941e+10)
Iteration: 4200
                       Total Loss: tensor(1.0671e+10)
IC Loss: tensor(0.4885)
                                                             NS PDE Loss: tensor(64.0687)
                               BC Loss: tensor(9.8123e-11)
                                                                                             Mv Bdry Los
s: tensor(1.0665e+10)
                      Total Loss: tensor(1.0457e+10)
Iteration: 4400
IC Loss: tensor(0.4890)
                              BC Loss: tensor(9.7896e-11)
                                                             NS PDE Loss: tensor(64.0532)
                                                                                            Mv Bdry Los
s: tensor(1.0451e+10)
Iteration: 4600
                      Total Loss: tensor(1.0205e+10)
                                                             NS PDE Loss: tensor(64.0289)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4895)
                               BC Loss: tensor(9.9802e-11)
s: tensor(1.0198e+10)
```

<pre>Iteration: 4800</pre>			
IC Loss: tensor(0.4900) BC Loss: tensor(1.0145e-10)	NS PDE Loss:	tensor(64.0083)	Mv Bdry Los
s: tensor(9.9918e+09)			·
<pre>Iteration: 5000</pre>			
IC Loss: tensor(0.4904) BC Loss: tensor(1.0295e-10)	NS PDE Loss:	tensor(63.9873)	Mv Bdry Los
s: tensor(9.7861e+09)			•
<pre>Iteration: 5200</pre>			
IC Loss: tensor(0.4909) BC Loss: tensor(1.0406e-10)	NS PDE Loss:	tensor(63.9662)	Mv Bdrv Los
s: tensor(9.5727e+09)		,	, ,
<pre>Iteration: 5400</pre>			
IC Loss: tensor(0.4913) BC Loss: tensor(1.0391e-10)	NS PDE Loss:	tensor(63,9462)	Mv Bdry Los
s: tensor(9.4009e+09)		,	, ,
<pre>Iteration: 5600</pre>			
IC Loss: tensor(0.4916) BC Loss: tensor(1.0309e-10)	NS PDE Loss:	tensor(63,9284)	Mv Bdrv Los
s: tensor(9.2161e+09)		,	, ,
Iteration: 5800 Total Loss: tensor(9.0412e+09)			
IC Loss: tensor(0.4913) BC Loss: tensor(1.0566e-10)	NS PDE Loss:	tensor(63,9121)	Mv Bdrv Los
s: tensor(9.0348e+09)		,	,
Iteration: 6000 Total Loss: tensor(8.9213e+09)			
IC Loss: tensor(0.4916) BC Loss: tensor(1.0658e-10)	NS PDE Loss:	tensor(63,8974)	Mv Bdrv Los
s: tensor(8.9149e+09)		,	,
Iteration: 6200 Total Loss: tensor(8.4927e+09)			
IC Loss: tensor(0.4915) BC Loss: tensor(1.0484e-10)	NS PDE Loss:	tensor(63.9054)	Mv Bdrv Los
s: tensor(8.4862e+09)		,	, ,
Iteration: 6400 Total Loss: tensor(8.2769e+09)			
	NS PDE Loss:	tensor(63.8909)	Mv Bdry Los
s: tensor(8.2705e+09)		,	,
Iteration: 6600 Total Loss: tensor(8.0808e+09)			
IC Loss: tensor(0.4917) BC Loss: tensor(1.0584e-10)	NS PDE Loss:	tensor(63,8833)	Mv Bdry Los
s: tensor(8.0744e+09)		,	,
Iteration: 6800 Total Loss: tensor(7.9112e+09)			
IC Loss: tensor(0.4918) BC Loss: tensor(1.0692e-10)	NS PDE Loss:	tensor(63.8790)	My Bdry Los
s: tensor(7.9048e+09)			,
Iteration: 7000 Total Loss: tensor(7.7565e+09)			
IC Loss: tensor(0.4919) BC Loss: tensor(1.0756e-10)	NS PDF Loss:	tensor(63.8762)	My Bdry Los
s: tensor(7.7501e+09)		(00107027	20., 200
Iteration: 7200 Total Loss: tensor(7.6052e+09)			
IC Loss: tensor(0.4920) BC Loss: tensor(1.0842e-10)	NS PDE Loss:	tensor(63.8747)	Mv Bdry Los
s: tensor(7.5988e+09)		3	,
Iteration: 7400 Total Loss: tensor(7.4560e+09)			
IC Loss: tensor(0.4921) BC Loss: tensor(1.1073e-10)	NS PDE Loss:	tensor(63.8737)	Mv Bdry Los
s: tensor(7.4496e+09)		3	,

Iteration: 7600 Total Loss: tensor(7.3402e+09)			
<pre>IC Loss: tensor(0.4921)</pre> BC Loss: tensor(1.1065e-10)	NS PDE Loss:	tensor(63.8741)	Mv Bdry Los
s: tensor(7.3338e+09)			·
Iteration: 7800 Total Loss: tensor(7.2104e+09)			
IC Loss: tensor(0.4922) BC Loss: tensor(1.1146e-10)	NS PDE Loss:	tensor(63.8750)	Mv Bdry Los
s: tensor(7.2039e+09)			ĺ
Iteration: 8000 Total Loss: tensor(7.1225e+09)			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1220e-10)	NS PDE Loss:	tensor(63.8764)	Mv Bdrv Los
s: tensor(7.1160e+09)		,	, ,
Iteration: 8200 Total Loss: tensor(6.9910e+09)			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1166e-10)	NS PDE Loss:	tensor(63.8786)	Mv Bdrv Los
s: tensor(6.9846e+09)		,	,
Iteration: 8400 Total Loss: tensor(6.9117e+09)			
IC Loss: tensor(0.4924) BC Loss: tensor(1.1183e-10)	NS PDE Loss:	tensor(63,8806)	Mv Bdrv Los
s: tensor(6.9053e+09)		,	,
Iteration: 8600 Total Loss: tensor(6.8014e+09)			
IC Loss: tensor(0.4924) BC Loss: tensor(1.1092e-10)	NS PDE Loss:	tensor(63,8772)	Mv Bdrv Los
s: tensor(6.7950e+09)		,	,
Iteration: 8800 Total Loss: tensor(6.7155e+09)			
IC Loss: tensor(0.4925) BC Loss: tensor(1.1090e-10)	NS PDE Loss:	tensor(63,8728)	Mv Bdrv Los
s: tensor(6.7091e+09)			,
Iteration: 9000 Total Loss: tensor(6.5958e+09)			
IC Loss: tensor(0.4925) BC Loss: tensor(1.1106e-10)	NS PDE Loss:	tensor(63,8670)	Mv Bdrv Los
s: tensor(6.5894e+09)		, , , , , , , , , , , , , , , , , , , ,	, ,
Iteration: 9200 Total Loss: tensor(6.5218e+09)			
	NS PDE Loss:	tensor(63.8609)	Mv Bdry Los
s: tensor(6.5154e+09)		,	,
Iteration: 9400 Total Loss: tensor(6.4464e+09)			
IC Loss: tensor(0.4926) BC Loss: tensor(1.1171e-10)	NS PDE Loss:	tensor(63.8546)	Mv Bdrv Los
s: tensor(6.4400e+09)		, , , , , , , , , , , , , , , , , , , ,	,
Iteration: 9600 Total Loss: tensor(6.3771e+09)			
IC Loss: tensor(0.4926) BC Loss: tensor(1.1442e-10)	NS PDE Loss:	tensor(63.8480)	Mv Bdrv Los
s: tensor(6.3707e+09)		, , , , , , , , , , , , , , , , , , , ,	,
Iteration: 9800 Total Loss: tensor(6.2703e+09)			
IC Loss: tensor(0.4926) BC Loss: tensor(1.1308e-10)	NS PDE Loss:	tensor(63.8417)	My Bdry Los
s: tensor(6.2638e+09)		(0010127)	20., 200
Iteration: 10000 Total Loss: tensor(6.1914e+09)			
IC Loss: tensor(0.4926) BC Loss: tensor(1.1421e-10)	NS PDE Loss:	tensor(63.8360)	Mv Bdry Los
s: tensor(6.1850e+09)		3	,
Iteration: 10200 Total Loss: tensor(6.1602e+09)			
IC Loss: tensor(0.4926) BC Loss: tensor(1.1278e-10)	NS PDE Loss:	tensor(63.8308)	Mv Bdry Los
s: tensor(6.1537e+09)		J	,

Total Loss: tensor(6.0958e+09) Total Loss: tensor(6.0958e+09) Total Loss: tensor(6.0893e+09) Total Loss: tensor(6.0893e+09) Total Loss: tensor(6.0896e+09) Total Loss: tensor(6.0188e+09) Total Loss: tensor(6.0188e+09) Total Loss: tensor(6.0188e+09) Total Loss: tensor(6.0958e+09) Total Loss: tensor(5.9564e+09) Total Loss: tensor(5.9564e+09) Total Loss: tensor(5.9564e+09) Total Loss: tensor(5.8705e+09) Total Loss: tensor(6.8875e+09) Total Loss: tensor(5.875e+09) Total Loss: tensor(6.8875e+09) Total Loss: tensor(6.8875e+09) Total Loss: tensor(6.8875e+09) Total Loss: tensor(6.8875e+09) Total Loss: tensor(6.892e) Total Loss: tensor(6.8875e+09) Total Loss: tensor(6.8911e+09) Total Loss: tensor(6.891e+09) Total Loss: tensor(6.892e) Total Loss: tensor(6.8991e+09) Total Loss: tensor(6.892e) Total Loss: tensor(6.8991e+09) Total Loss: tensor(6.892e+09) Total Loss: tensor(6.8991e+09) Total Loss: tensor(6.892e+09) Total Loss	CL Loss: tensor(0.4926) SC Loss: tensor(1.1473e-10) NS PDE Loss: tensor(63.8258) Mv Bdry Los					
Strensor(6.0839e+09)	Strensor(6,08830=00)	Iteration: 10400 Total	Loss: tensor(6.0958e+09)			
Tetration: 10600	Tetration: 10600	<pre>IC Loss: tensor(0.4926)</pre>	BC Loss: tensor(1.1473e-10)	NS PDE Loss:	tensor(63.8258)	Mv Bdry Los
IC Loss: tensor(0.4926)	IC Loss: tensor(0.4926)	s: tensor(6.0893e+09)				
TC Loss: tensor(0.4926)	CL Loss: tensor(0.4926) BC Loss: tensor(1.1568e-10) NS PDE Loss: tensor(63.8198) Mv Bdry Los	Iteration: 10600 Total	Loss: tensor(6.0108e+09)			
Strensor(6.0044e+09)	Strensor(6.0044e+09) Total Loss: tensor(5.9564e+09) Total Loss: tensor(1.1616e-10) Total Loss: tensor(1.1616e-10) Total Loss: tensor(1.1616e-10) Total Loss: tensor(1.1616e-10) Total Loss: tensor(1.1614e-10) Total Loss: tensor(1.1711e-10) Total Loss: tensor(1.1820e-10) Total Loss: tensor(1.1979e-10) Total Loss: tensor(1.1896e-10) Total Loss: tensor(1.1976e-10) Total Loss: tensor(1.4924) Total Loss: ten	IC Loss: tensor(0.4926)	BC Loss: tensor(1.1568e-10)	NS PDE Loss:	tensor(63.8198)	Mv Bdry Los
Tetation: 10800	Tetration: 10800					,
TC Loss: tensor(0.4926) BC Loss: tensor(1.1616e-10) NS PDE Loss: tensor(63.8144) Mv Bdry Los	IC Loss: tensor(0.4926) BC Loss: tensor(1.1616e-10) NS PDE Loss: tensor(63.8144) MV Bdry Los s: tensor(5.9500e+09) Iteration: 11000 Total Loss: tensor(5.8705e+09) IC Loss: tensor(0.4926) BC Loss: tensor(1.1614e-10) NS PDE Loss: tensor(63.8099) MV Bdry Los s: tensor(5.8641e+09) Iteration: 11200 Total Loss: tensor(5.8175e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1711e-10) NS PDE Loss: tensor(63.8053) MV Bdry Los s: tensor(5.8111e+09) Iteration: 11400 Total Loss: tensor(5.7857e+09) IC Loss: tensor(0.4925) BC Loss: tensor(1.1820e-10) NS PDE Loss: tensor(63.8013) MV Bdry Los s: tensor(5.79793e+09) Iteration: 11600 Total Loss: tensor(5.6991e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.2048e-10) NS PDE Loss: tensor(63.7973) MV Bdry Los s: tensor(5.6927e+09) Iteration: 11800 Total Loss: tensor(5.6614e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.2140e-10) NS PDE Loss: tensor(63.7941) MV Bdry Los s: tensor(5.6552e+09) Iteration: 12000 Total Loss: tensor(5.6107e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1997e-10) NS PDE Loss: tensor(63.7904) MV Bdry Los s: tensor(5.5529e+09) Iteration: 12200 Total Loss: tensor(5.5529e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1997e-10) NS PDE Loss: tensor(63.7878) MV Bdry Los s: tensor(5.5552e+09) Iteration: 12400 Total Loss: tensor(5.4859e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1996e-10) NS PDE Loss: tensor(63.7833) MV Bdry Los s: tensor(5.5057e+09) Iteration: 12800 Total Loss: tensor(5.4859e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1993e-10) NS PDE Loss: tensor(63.7833) MV Bdry Los s: tensor(5.494e+09) IC Loss: tensor(0.4924) BC Loss: tensor(1.1993e-10) NS PDE Loss: tensor(63.7833) MV Bdry Los s: tensor(5.4237e+09) Iteration: 12800 Total Loss: tensor(5.3951e+09) IC Loss: tensor(6.4924) BC Loss: tensor(1.2034e-10) NS PDE Loss: tensor(63.7775) MV Bdry Los s: tensor(5.4237e+09) IC Loss: tensor(6.4924) BC Loss: tensor(1.2034e-10) NS PDE Loss: tensor(63.7775) MV Bdry Los s: tensor(5.4237e+09) IC Loss: tensor(6.4924) BC Loss: tensor(63.3951e+09) IC Loss: tensor(6.		loss: tensor(5.9564e+09)			
St. tensor(5.9500e+09)	Strensor(5.950e+09) Total Loss: tensor(5.8705e+09) Total Loss: tensor(6.4926) BC Loss: tensor(6.1614e-10) NS PDE Loss: tensor(63.809) MV Bdry Loss: tensor(5.8614e+09) Total Loss: tensor(5.8175e+09) Total Loss: tensor(6.4924) BC Loss: tensor(5.8175e+09) Total Loss: tensor(6.4924) BC Loss: tensor(5.7857e+09) Total Loss: tensor(5.811e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.691e+09) Total Loss: tensor(5.691e+09) Total Loss: tensor(5.6927e+09) Total Loss: tensor(5.6927e+09) Total Loss: tensor(5.6614e+09) Total Loss: tensor(5.6927e+09) Total Loss: tensor(5.6014e+09) Total Loss: tensor(5.5593e+09) Total Loss: tensor(5.5526e+09) Total Loss: tensor(5.5122e+09) Total Loss: tensor(5.5122e+09) Total Loss: tensor(5.5526e+09) Total Loss: tensor(5.5479e+09) Total Loss: tensor(5.4794e+09) Total Loss: tensor(5.4859e+09) Total Loss: tensor(5.4794e+09) T			NS PDF Loss:	tensor(63 8144)	My Bdry Los
Teration: 11000	Total Loss: tensor(5.8705e+09) C Loss: tensor(6.4926) BC Loss: tensor(1.1614e-10) NS PDE Loss: tensor(63.8099) Mv Bdry Loss: tensor(5.8641e+09) Total Loss: tensor(5.8175e+09) Total Loss: tensor(6.4924) BC Loss: tensor(1.1711e-10) NS PDE Loss: tensor(63.8053) Mv Bdry Loss: tensor(5.8111e+09) Total Loss: tensor(5.8111e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7857e+09) Total Loss: tensor(5.7793e+09) Total Loss: tensor(5.6991e+09) Total Loss: tensor(5.6991e+09) Total Loss: tensor(5.6991e+09) Total Loss: tensor(5.691e+09) Total Loss: tensor(5.691e+09) Total Loss: tensor(5.6614e+09) Total Loss: tensor(5.6614e+09) Total Loss: tensor(5.6614e+09) Total Loss: tensor(5.6107e+09) Total Loss: tensor(5.553e+09) Total Loss: tensor(5.5593e+09) Total Loss: tensor(5.5593e+09) Total Loss: tensor(5.5593e+09) Total Loss: tensor(5.5593e+09) Total Loss: tensor(5.552e+09) Total Loss: tensor(6.4924) BC Loss: tensor(1.2079e-10) Total Loss: tensor(6.4924) BC Loss: tensor(1.2079e-10) Total Loss: tensor(6.4924) BC Loss: tensor(6.4924) BC Loss: tensor(1.1896e-10) Total Loss: tensor(6.4924) BC Loss: tensor(1.1896e-10) Total Loss: tensor(6.4924) BC Loss: tensor(1.1976e-10) Total Loss: tensor(6.4924) BC Loss: tensor(1.1993e-10) Total Loss: tensor(6.37813) Total Loss: tensor(6.4924) BC Loss: tensor(1.1993e-10) Total Loss: tensor(6.37813) Total Loss: tensor(6.4924) Total Loss: tensor(6.4924) BC Loss: tensor(1.2034e-10) Total Loss: tensor(6.37795) Total Loss: tensor(6.3951e+09) Total Loss: tensor(6.37795) Total Loss: tensor(6.3951e+09) Total Loss: tensor(6.3951e+09) Total Loss: tensor(6.3951e+09) Total Loss: tensor(6.377		De 2033: (21301 (111010c 10)	NO THE EUGGS.	(0510144)	TIV Duty LOS
IC Loss: tensor(0.4926)	IC Loss: tensor(0.4926)		loss: tonsor(5 97050+00)			
St. tensor(5.8641e+09)	State Ensor (5.8641e+09)			NC DDE Local	toncor(62 0000)	My Pdry Loc
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	IC Loss: tensor(0.4924) BC Loss: tensor(1.2034e-10) NS PDE Loss: tensor(63.7795) Mv Bdry Los	s: tensor(5.4237e+09)				
TC Loss, topsor(0.4024) PC Loss, topsor(1.2024o.10) NC DDE Loss, topsor(62.7705) My Pdry Los		Iteration: 13000 Total	Loss: tensor(5.3951e+09)			
TC LOSS: Lensor (0.4924) BC LOSS: Lensor (1.2034e-10) NS PDE LOSS: Lensor (03.7793) NV Bury LOS	s: tensor(5.3886e+09)	<pre>IC Loss: tensor(0.4924)</pre>	BC Loss: tensor(1.2034e-10)	NS PDE Loss:	tensor(63.7795)	Mv Bdry Los
s: tensor(5.3886e+09)	•	s: tensor(5.3886e+09)				

<pre>Iteration: 13200 Total Loss: tensor(5.3489e+09)</pre>			
<pre>IC Loss: tensor(0.4924)</pre> BC Loss: tensor(1.2091e-10)	NS PDE Loss:	tensor(63.7779)	Mv Bdry Los
s: tensor(5.3425e+09)			·
<pre>Iteration: 13400 Total Loss: tensor(5.3021e+09)</pre>			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1956e-10)	NS PDE Loss:	tensor(63.7753)	Mv Bdry Los
s: tensor(5.2957e+09)			•
<pre>Iteration: 13600 Total Loss: tensor(5.2708e+09)</pre>			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1977e-10)	NS PDE Loss:	tensor(63.7711)	Mv Bdrv Los
s: tensor(5.2644e+09)		,	, ,
Iteration: 13800 Total Loss: tensor(5.2323e+09)			
IC Loss: tensor(0.4924) BC Loss: tensor(1.2074e-10)	NS PDE Loss:	tensor(63.7659)	Mv Bdry Los
s: tensor(5.2259e+09)		,	,
Iteration: 14000 Total Loss: tensor(5.1972e+09)			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1956e-10)	NS PDE Loss:	tensor(63.7620)	My Bdry Los
s: tensor(5.1908e+09)		,	,
Iteration: 14200 Total Loss: tensor(5.1415e+09)			
IC Loss: tensor(0.4923) BC Loss: tensor(1.1790e-10)	NS PDF Loss:	tensor(63.7576)	Mv Bdry Los
s: tensor(5.1351e+09)		,	,
Iteration: 14400 Total Loss: tensor(5.1270e+09)			
IC Loss: tensor(0.4922) BC Loss: tensor(1.1937e-10)	NS PDE Loss:	tensor(63.7538)	Mv Bdry Los
s: tensor(5.1205e+09)		, , , , , , , , , , , , , , , , , , , ,	, ,
<pre>Iteration: 14600 Total Loss: tensor(5.0770e+09)</pre>			
IC Loss: tensor(0.4922) BC Loss: tensor(1.2262e-10)	NS PDE Loss:	tensor(63.7500)	Mv Bdry Los
s: tensor(5.0706e+09)			,
Iteration: 14800 Total Loss: tensor(5.0437e+09)			
IC Loss: tensor(0.4921) BC Loss: tensor(1.2445e-10)	NS PDE Loss:	tensor(63.7474)	Mv Bdry Los
s: tensor(5.0373e+09)		,	, ,
<pre>Iteration: 15000 Total Loss: tensor(5.0044e+09)</pre>			
<pre>IC Loss: tensor(0.4921)</pre> BC Loss: tensor(1.2761e-10)	NS PDE Loss:	tensor(63.7433)	Mv Bdry Los
s: tensor(4.9979e+09)			,
<pre>Iteration: 15200 Total Loss: tensor(4.9646e+09)</pre>			
<pre>IC Loss: tensor(0.4920)</pre> BC Loss: tensor(1.3083e-10)	NS PDE Loss:	tensor(63.7393)	Mv Bdry Los
s: tensor(4.9582e+09)			•
<pre>Iteration: 15400 Total Loss: tensor(4.9475e+09)</pre>			
IC Loss: tensor(0.4919) BC Loss: tensor(1.3179e-10)	NS PDE Loss:	tensor(63.7354)	Mv Bdry Los
s: tensor(4.9410e+09)			,
<pre>Iteration: 15600 Total Loss: tensor(4.9275e+09)</pre>			
<pre>IC Loss: tensor(0.4918)</pre> BC Loss: tensor(1.3091e-10)	NS PDE Loss:	tensor(63.7321)	Mv Bdry Los
s: tensor(4.9211e+09)			,
Iteration: 15800 Total Loss: tensor(4.8643e+09)			
IC Loss: tensor(0.4917) BC Loss: tensor(1.2781e-10)	NS PDE Loss:	tensor(63.7292)	Mv Bdry Los
s: tensor(4.8579e+09)			,

Iteration: 16000 Total Loss: tensor(4.8466e+09)			
<pre>IC Loss: tensor(0.4916)</pre> BC Loss: tensor(1.2722e-10)	NS PDE Loss:	tensor(63.7271)	Mv Bdry Los
s: tensor(4.8402e+09)			·
<pre>Iteration: 16200 Total Loss: tensor(4.8238e+09)</pre>			
<pre>IC Loss: tensor(0.4915)</pre> BC Loss: tensor(1.2901e-10)	NS PDE Loss:	tensor(63.7248)	Mv Bdry Los
s: tensor(4.8174e+09)			•
<pre>Iteration: 16400</pre>			
IC Loss: tensor(0.4914) BC Loss: tensor(1.2595e-10)	NS PDE Loss:	tensor(63.7220)	Mv Bdrv Los
s: tensor(4.7847e+09)		,	,
Iteration: 16600 Total Loss: tensor(4.7504e+09)			
	NS PDF Loss:	tensor(63.7201)	My Bdry Los
s: tensor(4.7440e+09)			,
Iteration: 16800 Total Loss: tensor(4.7282e+09)			
IC Loss: tensor(0.4912) BC Loss: tensor(1.2571e-10)	NS PDF Loss:	tensor(63.7182)	My Bdry Los
s: tensor(4.7218e+09)		, , , , , , , , , , , , , , , , , , , ,	,
Iteration: 17000 Total Loss: tensor(4.7368e+09)			
IC Loss: tensor(0.4911) BC Loss: tensor(1.2816e-10)	NS PDF Loss:	tensor(63.7166)	Mv Bdry Los
s: tensor(4.7304e+09)		,	,
Iteration: 17200 Total Loss: tensor(4.6867e+09)			
IC Loss: tensor(0.4910) BC Loss: tensor(1.2919e-10)	NS PDE Loss:	tensor(63.7149)	Mv Bdry Los
s: tensor(4.6803e+09)		,	,
<pre>Iteration: 17400 Total Loss: tensor(4.6321e+09)</pre>			
IC Loss: tensor(0.4909) BC Loss: tensor(1.2697e-10)	NS PDE Loss:	tensor(63.7144)	Mv Bdry Los
s: tensor(4.6257e+09)			,
<pre>Iteration: 17600 Total Loss: tensor(4.6231e+09)</pre>			
IC Loss: tensor(0.4908) BC Loss: tensor(1.3051e-10)	NS PDE Loss:	tensor(63.7140)	Mv Bdry Los
s: tensor(4.6167e+09)		,	,
<pre>Iteration: 17800 Total Loss: tensor(4.5605e+09)</pre>			
<pre>IC Loss: tensor(0.4907)</pre> BC Loss: tensor(1.3210e-10)	NS PDE Loss:	tensor(63.7143)	Mv Bdry Los
s: tensor(4.5541e+09)			•
<pre>Iteration: 18000 Total Loss: tensor(4.5398e+09)</pre>			
<pre>IC Loss: tensor(0.4907)</pre> BC Loss: tensor(1.3420e-10)	NS PDE Loss:	tensor(63.7065)	Mv Bdry Los
s: tensor(4.5333e+09)			•
Iteration: 18200 Total Loss: tensor(4.4564e+09)			
IC Loss: tensor(0.4915) BC Loss: tensor(1.3475e-10)	NS PDE Loss:	tensor(63.7010)	Mv Bdry Los
s: tensor(4.4500e+09)			,
<pre>Iteration: 18400</pre>			
IC Loss: tensor(0.4910) BC Loss: tensor(1.3664e-10)	NS PDE Loss:	tensor(63.6996)	Mv Bdry Los
s: tensor(4.4267e+09)			,
Iteration: 18600 Total Loss: tensor(4.3679e+09)			
IC Loss: tensor(0.4911) BC Loss: tensor(1.3723e-10)	NS PDE Loss:	tensor(63.6992)	Mv Bdry Los
s: tensor(4.3615e+09)	-	,	,

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Iteration: 18800
                       Total Loss: tensor(4.3506e+09)
                               BC Loss: tensor(1.3877e-10)
                                                              NS PDE Loss: tensor(63.6965)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4911)
s: tensor(4.3442e+09)
Iteration: 19000
                       Total Loss: tensor(4.2877e+09)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4912)
                               BC Loss: tensor(1.4047e-10)
                                                              NS PDE Loss: tensor(63,6950)
s: tensor(4.2812e+09)
Iteration: 19200
                       Total Loss: tensor(4.2564e+09)
IC Loss: tensor(0.4912)
                               BC Loss: tensor(1.4273e-10)
                                                              NS PDE Loss: tensor(63.6947)
                                                                                             Mv Bdry Los
s: tensor(4.2500e+09)
Iteration: 19400
                       Total Loss: tensor(4.2179e+09)
                                                              NS PDE Loss: tensor(63.6954)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4912)
                               BC Loss: tensor(1.4193e-10)
s: tensor(4.2115e+09)
Iteration: 19600
                       Total Loss: tensor(4.2120e+09)
                                                              NS PDE Loss: tensor(63.6974)
IC Loss: tensor(0.4913)
                               BC Loss: tensor(1.4263e-10)
                                                                                             Mv Bdry Los
s: tensor(4.2056e+09)
Iteration: 19800
                       Total Loss: tensor(4.1806e+09)
                                                              NS PDE Loss: tensor(63.6988)
IC Loss: tensor(0.4913)
                               BC Loss: tensor(1.4386e-10)
                                                                                             Mv Bdry Los
s: tensor(4.1742e+09)
Iteration: 20000
                       Total Loss: tensor(4.1560e+09)
                                                              NS PDE Loss: tensor(63.7012)
IC Loss: tensor(0.4913)
                               BC Loss: tensor(1.4502e-10)
                                                                                             Mv Bdry Los
s: tensor(4.1496e+09)
Executing Pass 3
Current Final Time: 0.01 Current Learning Rate: 4.999999999999996e-06
Iteration: 200 Total Loss: tensor(1.3778e+12)
IC Loss: tensor(0.4825)
                               BC Loss: tensor(1.4542e-10)
                                                              NS PDE Loss: tensor(63.4464)
                                                                                             Mv Bdry Los
s: tensor(1.3778e+12)
Iteration: 400 Total Loss: tensor(1.0559e+12)
IC Loss: tensor(0.4787)
                               BC Loss: tensor(1.1825e-10)
                                                              NS PDE Loss: tensor(63,2331)
                                                                                             Mv Bdry Los
s: tensor(1.0559e+12)
Iteration: 600 Total Loss: tensor(8.8852e+11)
                                                              NS PDE Loss: tensor(63.2597)
IC Loss: tensor(0.4784)
                               BC Loss: tensor(1.1192e-10)
                                                                                             Mv Bdry Los
s: tensor(8.8851e+11)
Iteration: 800 Total Loss: tensor(7.8767e+11)
                                                              NS PDE Loss: tensor(63.1625)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4786)
                               BC Loss: tensor(1,2638e-10)
s: tensor(7.8767e+11)
Iteration: 1000
                       Total Loss: tensor(7.0924e+11)
                                                              NS PDE Loss: tensor(62.9442)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4797)
                               BC Loss: tensor(1.2262e-10)
s: tensor(7.0924e+11)
Iteration: 1200
                       Total Loss: tensor(6.5556e+11)
IC Loss: tensor(0.4805)
                               BC Loss: tensor(7.3044e-11)
                                                              NS PDE Loss: tensor(62.9654)
                                                                                             Mv Bdry Los
s: tensor(6.5555e+11)
Iteration: 1400
                       Total Loss: tensor(6.1272e+11)
```

<pre>IC Loss: tensor(0.4812) s: tensor(6.1271e+11)</pre>	BC Loss: tensor(3.2161e-11)	NS PDE Loss:	tensor(62.9010)	Mv Bdry Los
Iteration: 1600 Total	Loss: tensor(5.7697e+11)			
<pre>IC Loss: tensor(0.4807) s: tensor(5.7697e+11)</pre>	BC Loss: tensor(1.3640e-11)	NS PDE Loss:	tensor(62.8216)	Mv Bdry Los
Iteration: 1800 Total	Loss: tensor(5.4523e+11)			
	BC Loss: tensor(1.2936e-11)	NS PDE Loss:	tensor(62.7743)	Mv Bdry Los
s: tensor(5.4522e+11)				,
Iteration: 2000 Total	Loss: tensor(5.1491e+11)			
	BC Loss: tensor(9.5947e-12)	NS PDE Loss:	tensor(62.7516)	Mv Bdry Los
s: tensor(5.1490e+11)				,
Iteration: 2200 Total	Loss: tensor(4.8591e+11)			
	BC Loss: tensor(9.6604e-12)	NS PDE Loss:	tensor(62,7099)	Mv Bdrv Los
s: tensor(4.8590e+11)				,
Iteration: 2400 Total	Loss: tensor(4.5984e+11)			
	BC Loss: tensor(1.0496e-11)	NS PDE Loss:	tensor(62,6887)	Mv Bdry Los
s: tensor(4.5984e+11)				,
Iteration: 2600 Total	Loss: tensor(4.3474e+11)			
	BC Loss: tensor(6.9173e-12)	NS PDE Loss:	tensor(62.6714)	Mv Bdry Los
s: tensor(4.3474e+11)				,
Iteration: 2800 Total	Loss: tensor(4.1166e+11)			
	BC Loss: tensor(6.1601e-12)	NS PDE Loss:	tensor(62.6698)	Mv Bdry Los
s: tensor(4.1165e+11)				,
Iteration: 3000 Total	Loss: tensor(3.4163e+11)			
<pre>IC Loss: tensor(0.4846)</pre>	BC Loss: tensor(1.0586e-11)	NS PDE Loss:	tensor(62.5825)	Mv Bdry Los
s: tensor(3.4162e+11)				-
Iteration: 3200 Total	Loss: tensor(3.1305e+11)			
<pre>IC Loss: tensor(0.4848)</pre>	BC Loss: tensor(1.0733e-11)	NS PDE Loss:	tensor(62.4942)	Mv Bdry Los
s: tensor(3.1305e+11)				
Iteration: 3400 Total	Loss: tensor(2.9862e+11)			
<pre>IC Loss: tensor(0.4852)</pre>	BC Loss: tensor(1.5175e-11)	NS PDE Loss:	tensor(62.4990)	Mv Bdry Los
s: tensor(2.9862e+11)				
Iteration: 3600 Total	Loss: tensor(2.8197e+11)			
<pre>IC Loss: tensor(0.4851)</pre>	BC Loss: tensor(1.1903e-11)	NS PDE Loss:	tensor(62.4414)	Mv Bdry Los
s: tensor(2.8197e+11)				
Iteration: 3800 Total	Loss: tensor(2.5733e+11)			
IC Loss: tensor(0.4843)	BC Loss: tensor(1.1773e-11)	NS PDE Loss:	tensor(62.3555)	Mv Bdry Los
s: tensor(2.5733e+11)				
Iteration: 4000 Total	Loss: tensor(2.5872e+11)			
<pre>IC Loss: tensor(0.4843)</pre>	BC Loss: tensor(1.1887e-11)	NS PDE Loss:	tensor(62.3518)	Mv Bdry Los
s: tensor(2.5871e+11)				
Iteration: 4200 Total	Loss: tensor(2.5676e+11)			

```
BC Loss: tensor(1.1807e-11)
                                                             NS PDE Loss: tensor(62.3525) Mv Bdry Los
IC Loss: tensor(0.4842)
s: tensor(2.5675e+11)
Iteration: 4400
                      Total Loss: tensor(2.5232e+11)
                                                             NS PDE Loss: tensor(62.3548)
IC Loss: tensor(0.4840)
                              BC Loss: tensor(1.1775e-11)
                                                                                            Mv Bdry Los
s: tensor(2.5232e+11)
Iteration: 4600
                      Total Loss: tensor(2.6016e+11)
                                                             NS PDE Loss: tensor(62.3539)
IC Loss: tensor(0.4841)
                               BC Loss: tensor(1.1886e-11)
                                                                                            Mv Bdry Los
s: tensor(2.6016e+11)
Iteration: 4800
                       Total Loss: tensor(2.5927e+11)
                                                             NS PDE Loss: tensor(62.3538)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4840)
                              BC Loss: tensor(1.1908e-11)
s: tensor(2.5926e+11)
Iteration: 5000
                      Total Loss: tensor(2.5505e+11)
IC Loss: tensor(0.4840)
                              BC Loss: tensor(1.1902e-11)
                                                             NS PDE Loss: tensor(62.3557)
                                                                                            Mv Bdry Los
s: tensor(2.5505e+11)
Iteration: 5200
                      Total Loss: tensor(2.5439e+11)
                                                             NS PDE Loss: tensor(62.3543)
IC Loss: tensor(0.4840)
                              BC Loss: tensor(1.2024e-11)
                                                                                            Mv Bdry Los
s: tensor(2.5439e+11)
Iteration: 5400
                      Total Loss: tensor(2.5119e+11)
IC Loss: tensor(0.4841)
                                                             NS PDE Loss: tensor(62.3541)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(1.1950e-11)
s: tensor(2.5118e+11)
Iteration: 5600
                       Total Loss: tensor(2.5043e+11)
                                                             NS PDE Loss: tensor(62.3545)
IC Loss: tensor(0.4840)
                              BC Loss: tensor(1.1927e-11)
                                                                                            Mv Bdry Los
s: tensor(2.5042e+11)
Iteration: 5800
                       Total Loss: tensor(2.5074e+11)
                                                             NS PDE Loss: tensor(62.3528)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1868e-11)
s: tensor(2.5073e+11)
Iteration: 6000
                     Total Loss: tensor(2.5377e+11)
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1813e-11)
                                                             NS PDE Loss: tensor(62.3545)
                                                                                            Mv Bdry Los
s: tensor(2.5376e+11)
Iteration: 6200
                       Total Loss: tensor(2.5213e+11)
IC Loss: tensor(0.4843)
                                                             NS PDE Loss: tensor(62.3530)
                               BC Loss: tensor(1.1836e-11)
                                                                                            Mv Bdry Los
s: tensor(2.5212e+11)
Iteration: 6400
                       Total Loss: tensor(2.4965e+11)
                                                             NS PDE Loss: tensor(62.3548)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4841)
                              BC Loss: tensor(1.1843e-11)
s: tensor(2.4964e+11)
Iteration: 6600
                      Total Loss: tensor(2,6063e+11)
                                                             NS PDE Loss: tensor(62.3525)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4844)
                               BC Loss: tensor(1.1835e-11)
s: tensor(2.6063e+11)
Iteration: 6800
                       Total Loss: tensor(2.4908e+11)
                                                             NS PDE Loss: tensor(62.3546)
IC Loss: tensor(0.4841)
                              BC Loss: tensor(1.1756e-11)
                                                                                            Mv Bdry Los
s: tensor(2.4908e+11)
Iteration: 7000
                      Total Loss: tensor(2.4827e+11)
```

```
BC Loss: tensor(1.1769e-11)
                                                             NS PDE Loss: tensor(62.3552) Mv Bdry Los
IC Loss: tensor(0.4842)
s: tensor(2.4827e+11)
Iteration: 7200
                      Total Loss: tensor(2.4933e+11)
                                                             NS PDE Loss: tensor(62.3545)
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1744e-11)
                                                                                            Mv Bdry Los
s: tensor(2.4933e+11)
Iteration: 7400
                      Total Loss: tensor(2.5037e+11)
                                                             NS PDE Loss: tensor(62.3554)
IC Loss: tensor(0.4843)
                              BC Loss: tensor(1.1734e-11)
                                                                                            Mv Bdry Los
s: tensor(2.5036e+11)
Iteration: 7600
                      Total Loss: tensor(2.4674e+11)
                                                             NS PDE Loss: tensor(62.3576)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1696e-11)
s: tensor(2.4673e+11)
Iteration: 7800
                      Total Loss: tensor(2.4672e+11)
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1,1727e-11)
                                                             NS PDE Loss: tensor(62.3580)
                                                                                            Mv Bdry Los
s: tensor(2.4671e+11)
Iteration: 8000
                      Total Loss: tensor(2.4504e+11)
                                                             NS PDE Loss: tensor(62.3640)
IC Loss: tensor(0.4839)
                              BC Loss: tensor(1.1681e-11)
                                                                                            Mv Bdry Los
s: tensor(2.4503e+11)
Iteration: 8200
                      Total Loss: tensor(2.4961e+11)
IC Loss: tensor(0.4841)
                                                             NS PDE Loss: tensor(62.3608)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(1.1681e-11)
s: tensor(2.4960e+11)
Iteration: 8400
                      Total Loss: tensor(2.9209e+11)
                              BC Loss: tensor(1.1661e-11)
                                                             NS PDE Loss: tensor(62.3601)
IC Loss: tensor(0.4842)
                                                                                            Mv Bdry Los
s: tensor(2.9208e+11)
Iteration: 8600
                      Total Loss: tensor(2.4569e+11)
                                                             NS PDE Loss: tensor(62.3609)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1624e-11)
s: tensor(2.4568e+11)
Iteration: 8800
                     Total Loss: tensor(2.4736e+11)
IC Loss: tensor(0.4842)
                              BC Loss: tensor(1.1632e-11)
                                                             NS PDE Loss: tensor(62.3621)
                                                                                            Mv Bdry Los
s: tensor(2.4735e+11)
Iteration: 9000
                      Total Loss: tensor(2.8452e+11)
IC Loss: tensor(0.4840)
                                                             NS PDE Loss: tensor(62.3684)
                              BC Loss: tensor(1.1597e-11)
                                                                                            Mv Bdry Los
s: tensor(2.8451e+11)
Iteration: 9200
                      Total Loss: tensor(2.4406e+11)
IC Loss: tensor(0.4842)
                                                             NS PDE Loss: tensor(62.3656)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(1.1508e-11)
s: tensor(2.4405e+11)
Iteration: 9400
                      Total Loss: tensor(2.4379e+11)
                                                             NS PDE Loss: tensor(62.3673)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4841)
                              BC Loss: tensor(1.1423e-11)
s: tensor(2.4379e+11)
Iteration: 9600
                       Total Loss: tensor(2.4476e+11)
                                                             NS PDE Loss: tensor(62.3675)
IC Loss: tensor(0.4843)
                              BC Loss: tensor(1.1379e-11)
                                                                                            Mv Bdry Los
s: tensor(2.4475e+11)
Iteration: 9800
                      Total Loss: tensor(2.4748e+11)
```

```
BC Loss: tensor(1.1470e-11)
                                                              NS PDE Loss: tensor(62.3691) Mv Bdry Los
IC Loss: tensor(0.4843)
s: tensor(2.4747e+11)
Iteration: 10000
                       Total Loss: tensor(2.4219e+11)
IC Loss: tensor(0.4843)
                               BC Loss: tensor(1.1450e-11)
                                                              NS PDE Loss: tensor(62.3700)
                                                                                              Mv Bdry Los
s: tensor(2.4219e+11)
Iteration: 10200
                       Total Loss: tensor(2.3999e+11)
                                                              NS PDE Loss: tensor(62.3705)
IC Loss: tensor(0.4843)
                               BC Loss: tensor(1.1411e-11)
                                                                                              Mv Bdry Los
s: tensor(2.3999e+11)
Iteration: 10400
                       Total Loss: tensor(2.8864e+11)
                                                              NS PDE Loss: tensor(62.3723)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4846)
                               BC Loss: tensor(1.1428e-11)
s: tensor(2.8863e+11)
Iteration: 10600
                       Total Loss: tensor(2.5322e+11)
                                                              NS PDE Loss: tensor(62.3692)
IC Loss: tensor(0.4842)
                               BC Loss: tensor(1.1371e-11)
                                                                                              Mv Bdry Los
s: tensor(2.5321e+11)
Iteration: 10800
                       Total Loss: tensor(2.4811e+11)
                                                              NS PDE Loss: tensor(62.3710)
IC Loss: tensor(0.4844)
                               BC Loss: tensor(1.1307e-11)
                                                                                              Mv Bdry Los
s: tensor(2.4810e+11)
Iteration: 11000
                       Total Loss: tensor(2.4581e+11)
IC Loss: tensor(0.4848)
                                                              NS PDE Loss: tensor(62.3705)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.1236e-11)
s: tensor(2.4581e+11)
Iteration: 11200
                       Total Loss: tensor(4.4561e+11)
                               BC Loss: tensor(1.1156e-11)
                                                              NS PDE Loss: tensor(62.3676)
IC Loss: tensor(0.4845)
                                                                                              Mv Bdry Los
s: tensor(4.4560e+11)
Iteration: 11400
                       Total Loss: tensor(2.5319e+11)
                                                              NS PDE Loss: tensor(62.3684)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4848)
                               BC Loss: tensor(1.1199e-11)
s: tensor(2.5318e+11)
Iteration: 11600
                       Total Loss: tensor(2.3567e+11)
IC Loss: tensor(0.4846)
                               BC Loss: tensor(1.1201e-11)
                                                              NS PDE Loss: tensor(62.3634)
                                                                                              Mv Bdry Los
s: tensor(2.3567e+11)
Iteration: 11800
                       Total Loss: tensor(2.4626e+11)
                                                              NS PDE Loss: tensor(62.3646)
IC Loss: tensor(0.4848)
                               BC Loss: tensor(1.1162e-11)
                                                                                              Mv Bdry Los
s: tensor(2.4626e+11)
Iteration: 12000
                       Total Loss: tensor(2.3483e+11)
                                                              NS PDE Loss: tensor(62.3607)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4847)
                               BC Loss: tensor(1.1150e-11)
s: tensor(2.3482e+11)
Iteration: 12200
                       Total Loss: tensor(2.3658e+11)
                                                              NS PDE Loss: tensor(62.3593)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4847)
                               BC Loss: tensor(1.1090e-11)
s: tensor(2.3658e+11)
Iteration: 12400
                       Total Loss: tensor(2.3724e+11)
IC Loss: tensor(0.4848)
                               BC Loss: tensor(1.1044e-11)
                                                              NS PDE Loss: tensor(62.3587)
                                                                                              Mv Bdry Los
s: tensor(2.3723e+11)
Iteration: 12600
                       Total Loss: tensor(2.5341e+11)
```

<pre>IC Loss: tensor(0.4844) s: tensor(2.5340e+11)</pre>	BC Loss: tensor(1.1009e-11)	NS PDE Loss:	tensor(62.3555)	Mv Bdry Los
Iteration: 12800 Total	Loss: tensor(2.3823e+11)			
<pre>IC Loss: tensor(0.4849) s: tensor(2.3822e+11)</pre>	BC Loss: tensor(1.1045e-11)	NS PDE Loss:	tensor(62.3564)	Mv Bdry Los
Iteration: 13000 Total	Loss: tensor(2.3290e+11)			
	BC Loss: tensor(1.1015e-11)	NS PDE Loss:	tensor(62.3555)	Mv Bdry Los
s: tensor(2.3290e+11)	20 20001 10001 (21 20 20 22)		(021000)	,
Iteration: 13200 Total	loss: tensor(2.4027e+11)			
	BC Loss: tensor(1.1018e-11)	NS PDF Loss:	tensor(62.3553)	Mv Bdry Los
s: tensor(2.4026e+11)	Be 10001 (1110100 11)	113 1 02 20331	(0213333)	iiv bary 205
	Loss: tensor(2.3784e+11)			
	BC Loss: tensor(1.1018e-11)	NS PDF Loss:	tensor(62.3534)	Mv Bdry Los
s: tensor(2.3783e+11)	DC 2003: CCH301 (111010C 11)	145 1 02 20331	(0213334)	The bury 205
	Loss: tensor(2.3774e+11)			
	BC Loss: tensor(1.0961e-11)	NS PDF Loss:	tensor(62.3539)	Mv Bdry Los
s: tensor(2.3773e+11)	DC 2033: CC11301 (1:0301C 11)	NO THE LOSS.	(02 1 3333)	11V Duly LOS
Iteration: 13800 Total	loss: tensor(2 /578e+11)			
	BC Loss: tensor(1.0792e-11)	NS PDF Loss:	tensor(62.3507)	Mv Bdry Los
s: tensor(2.4577e+11)	DC 2033: CC11301 (1:0732C 117	NO THE LOSS.	(02 1 3307)	11V Duly LOS
Iteration: 14000 Total	loss: tensor(2 3726e+11)			
	BC Loss: tensor(1.0767e-11)	NS PDF Loss:	tensor(62.3528)	Mv Bdry Los
s: tensor(2.3725e+11)	DC 2033. (21301 (110707C-11)	NO THE LUSS.	(02.3320)	The bury Los
Iteration: 14200 Total	loss: tensor(2 3548e+11)			
	BC Loss: tensor(1.0736e-11)	NS PDF Loss:	tensor(62.3518)	Mv Bdry Los
s: tensor(2.3547e+11)	DC 2033: CC11301 (1:0730C-11)	NO THE EUSS.	(02:3310)	TIV Dury LOS
	Loss: tensor(3.1438e+11)			
	BC Loss: tensor(1.0673e-11)	NS PDF Loss:	tensor(62.3507)	Mv Bdry Los
s: tensor(3.1437e+11)	DC 2033: CC11301 (1:00/3C 11/	NO THE EUGG.	(02 1 3307)	11V Duly LOS
	Loss: tensor(2.3097e+11)			
	BC Loss: tensor(1.0661e-11)	NS PDF Loss:	tensor(62.3498)	Mv Bdry Los
s: tensor(2.3097e+11)	DC 2033: (CH301(1:0001C-11)	NO THE EUSS.	(02 i 3430)	TIV Dury LOS
Iteration: 14800 Total	loss: tensor(2 3181e+11)			
	BC Loss: tensor(1.0629e-11)	NS DDF Locci	tensor(62.3499)	Mv Bdry Los
s: tensor(2.3180e+11)	DC 2033: CC11301 (1:0029C-11)	NO THE LUSS.	(02 1 3433)	IIV Duly LOS
Iteration: 15000 Total	Loss: tensor(2 3126e+11)			
IC Loss: tensor(0.4852)	BC Loss: tensor(1.0612e-11)	NC DDE Locci	tensor(62.3507)	Mv Bdry Los
s: tensor(2.3126e+11)	DC L033. (Eli301(1:00126-11)	NO FUL LUSS.	(02.3307)	nv bury Lus
	Loss: tensor(2.3133e+11)			
IC Loss: tensor(0.4852)	BC Loss: tensor(1.0578e-11)	NS DDF Locci	tensor(62.3499)	Mv Bdry Los
s: tensor(2.3133e+11)	DC L033. (Cli301 (1:03/0E-11)	IND INT FOSS!	CC11301 (UZ 1 3499)	TIV DUTY LUS
	Loss: tensor(2.2905e+11)			
TICIALION: 13400 IOLAL	. LU33. (CII301 (Z.Z30JCT11)			

IC Loss: tensor(0.4852)	BC Loss:	tensor(1.0686e-11)	NS PDE Loss:	tensor(62.3479)	Mv Bdry Los
s: tensor(2.2904e+11)					
Iteration: 15600 Tota					
<pre>IC Loss: tensor(0.4852)</pre>	BC Loss:	tensor(1.0712e-11)	NS PDE Loss:	tensor(62.3485)	Mv Bdry Los
s: tensor(2.2738e+11)					
Iteration: 15800 Tota	l Loss: tenso	r(2.9462e+11)			
<pre>IC Loss: tensor(0.4851)</pre>	BC Loss:	tensor(1.0720e-11)	NS PDE Loss:	tensor(62.3481)	Mv Bdry Los
s: tensor(2.9461e+11)					
Iteration: 16000 Tota	l Loss: tenso	r(2.4420e+11)			
<pre>IC Loss: tensor(0.4854)</pre>	BC Loss:	tensor(1.0657e-11)	NS PDE Loss:	tensor(62.3495)	Mv Bdry Los
s: tensor(2.4419e+11)					
Iteration: 16200 Tota	l Loss: tenso	r(2.2586e+11)			
<pre>IC Loss: tensor(0.4854)</pre>	BC Loss:	tensor(1.0651e-11)	NS PDE Loss:	tensor(62.3485)	Mv Bdry Los
s: tensor(2.2586e+11)					
Iteration: 16400 Tota	l Loss: tenso	r(2.2943e+11)			
<pre>IC Loss: tensor(0.4854)</pre>	BC Loss:	tensor(1.0645e-11)	NS PDE Loss:	tensor(62.3456)	Mv Bdry Los
s: tensor(2.2942e+11)					
Iteration: 16600 Tota	l Loss: tenso	r(2.3000e+11)			
<pre>IC Loss: tensor(0.4854)</pre>	BC Loss:	tensor(1.0598e-11)	NS PDE Loss:	tensor(62.3485)	Mv Bdry Los
s: tensor(2.2999e+11)					
Iteration: 16800 Tota	l Loss: tenso	r(2.2451e+11)			
<pre>IC Loss: tensor(0.4854)</pre>	BC Loss:	tensor(1.0623e-11)	NS PDE Loss:	tensor(62.3463)	Mv Bdry Los
s: tensor(2.2450e+11)					
Iteration: 17000 Tota	l Loss: tenso	r(2.2393e+11)			
<pre>IC Loss: tensor(0.4855)</pre>	BC Loss:	tensor(1.0598e-11)	NS PDE Loss:	tensor(62.3473)	Mv Bdry Los
s: tensor(2.2392e+11)					
Iteration: 17200 Tota	l Loss: tenso	r(2.2503e+11)			
<pre>IC Loss: tensor(0.4856)</pre>	BC Loss:	tensor(1.0613e-11)	NS PDE Loss:	tensor(62.3476)	Mv Bdry Los
s: tensor(2.2503e+11)					
Iteration: 17400 Tota	l Loss: tenso	r(2.4170e+11)			
<pre>IC Loss: tensor(0.4853)</pre>	BC Loss:	tensor(1.0615e-11)	NS PDE Loss:	tensor(62.3428)	Mv Bdry Los
s: tensor(2.4170e+11)					
Iteration: 17600 Tota	l Loss: tenso	r(2.2403e+11)			
<pre>IC Loss: tensor(0.4857)</pre>	BC Loss:	tensor(1.0562e-11)	NS PDE Loss:	tensor(62.3455)	Mv Bdry Los
s: tensor(2.2403e+11)					
Iteration: 17800 Tota	l Loss: tenso	r(2.2194e+11)			
<pre>IC Loss: tensor(0.4859)</pre>	BC Loss:	tensor(1.0601e-11)	NS PDE Loss:	tensor(62.3460)	Mv Bdry Los
s: tensor(2.2193e+11)					
Iteration: 18000 Tota	l Loss: tenso	r(2.2041e+11)			
IC Loss: tensor(0.4858)	BC Loss:	tensor(1.0613e-11)	NS PDE Loss:	tensor(62.3436)	Mv Bdry Los
s: tensor(2.2041e+11)					-
Iteration: 18200 Tota	l Loss: tenso	r(2.1932e+11)			

```
BC Loss: tensor(1.0610e-11)
                                                             NS PDE Loss: tensor(62.3431) Mv Bdry Los
IC Loss: tensor(0.4858)
s: tensor(2.1931e+11)
Iteration: 18400
                       Total Loss: tensor(2.2002e+11)
                                                              NS PDE Loss: tensor(62.3435)
IC Loss: tensor(0.4859)
                               BC Loss: tensor(1.0632e-11)
                                                                                             Mv Bdry Los
s: tensor(2.2001e+11)
Iteration: 18600
                       Total Loss: tensor(2.2657e+11)
                                                             NS PDE Loss: tensor(62.3430)
IC Loss: tensor(0.4859)
                               BC Loss: tensor(1.0628e-11)
                                                                                             Mv Bdry Los
s: tensor(2.2656e+11)
Iteration: 18800
                       Total Loss: tensor(2.1999e+11)
                                                              NS PDE Loss: tensor(62.3430)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4859)
                               BC Loss: tensor(1.0606e-11)
s: tensor(2.1998e+11)
Iteration: 19000
                       Total Loss: tensor(2.1885e+11)
IC Loss: tensor(0.4861)
                               BC Loss: tensor(1.0567e-11)
                                                             NS PDE Loss: tensor(62.3436)
                                                                                             Mv Bdry Los
s: tensor(2.1885e+11)
Iteration: 19200
                       Total Loss: tensor(2,6595e+11)
                                                              NS PDE Loss: tensor(62.3398)
IC Loss: tensor(0.4858)
                               BC Loss: tensor(1.0626e-11)
                                                                                             Mv Bdry Los
s: tensor(2.6594e+11)
Iteration: 19400
                       Total Loss: tensor(2.3836e+11)
IC Loss: tensor(0.4860)
                                                              NS PDE Loss: tensor(62.3400)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0601e-11)
s: tensor(2.3836e+11)
Iteration: 19600
                       Total Loss: tensor(2.3034e+11)
                                                             NS PDE Loss: tensor(62.3400)
IC Loss: tensor(0.4859)
                               BC Loss: tensor(1.0537e-11)
                                                                                             Mv Bdry Los
s: tensor(2.3034e+11)
Iteration: 19800
                       Total Loss: tensor(2,2468e+11)
                                                             NS PDE Loss: tensor(62.3436)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.4862)
                               BC Loss: tensor(1.0521e-11)
s: tensor(2.2468e+11)
Iteration: 20000
                       Total Loss: tensor(2.2143e+11)
IC Loss: tensor(0.4860)
                               BC Loss: tensor(1.0500e-11)
                                                             NS PDE Loss: tensor(62.3404)
                                                                                             Mv Bdry Los
s: tensor(2.2142e+11)
Current Final Time: 0.1 Current Learning Rate: 4.99999999999996e-06
Iteration: 200 Total Loss: tensor(2.3315e+12)
                                                             NS PDE Loss: tensor(62.1877)
IC Loss: tensor(0.5233)
                               BC Loss: tensor(1.0290e-11)
                                                                                             Mv Bdry Los
s: tensor(2.3315e+12)
Iteration: 400 Total Loss: tensor(1.1578e+12)
                                                             NS PDE Loss: tensor(62.1721)
IC Loss: tensor(0.5219)
                               BC Loss: tensor(9.6741e-12)
                                                                                             Mv Bdry Los
s: tensor(1.1578e+12)
Iteration: 600 Total Loss: tensor(7.8622e+11)
IC Loss: tensor(0.5237)
                              BC Loss: tensor(8.2329e-12)
                                                             NS PDE Loss: tensor(62.2578)
                                                                                             Mv Bdry Los
s: tensor(7.8622e+11)
Iteration: 800 Total Loss: tensor(6.2159e+11)
                               BC Loss: tensor(7.5520e-12)
                                                             NS PDE Loss: tensor(62.3239)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.5269)
s: tensor(6.2158e+11)
```

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Iteration: 1000
                       Total Loss: tensor(5.3137e+11)
                                                              NS PDE Loss: tensor(62.3813) Mv Bdry Los
IC Loss: tensor(0.5298)
                               BC Loss: tensor(7.4160e-12)
s: tensor(5.3136e+11)
Iteration: 1200
                       Total Loss: tensor(4.7481e+11)
IC Loss: tensor(0.5313)
                                                              NS PDE Loss: tensor(62.4287)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1,2095e-11)
s: tensor(4.7480e+11)
Iteration: 1400
                       Total Loss: tensor(4.3065e+11)
IC Loss: tensor(0.5320)
                               BC Loss: tensor(1,6612e-11)
                                                              NS PDE Loss: tensor(62.4905)
                                                                                             Mv Bdry Los
s: tensor(4.3065e+11)
                       Total Loss: tensor(4.2614e+11)
Iteration: 1600
IC Loss: tensor(0.5322)
                                                              NS PDE Loss: tensor(62.4890)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.6735e-11)
s: tensor(4.2614e+11)
Iteration: 1800
                       Total Loss: tensor(4.2677e+11)
IC Loss: tensor(0.5323)
                                                              NS PDE Loss: tensor(62.4886)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.7150e-11)
s: tensor(4.2676e+11)
Iteration: 2000
                       Total Loss: tensor(4.2128e+11)
                                                              NS PDE Loss: tensor(62.4893)
IC Loss: tensor(0.5324)
                               BC Loss: tensor(1.7423e-11)
                                                                                             Mv Bdry Los
s: tensor(4.2128e+11)
Iteration: 2200
                       Total Loss: tensor(4.2248e+11)
IC Loss: tensor(0.5324)
                                                              NS PDE Loss: tensor(62.4908)
                               BC Loss: tensor(1.7478e-11)
                                                                                             Mv Bdry Los
s: tensor(4.2248e+11)
Iteration: 2400
                      Total Loss: tensor(4.1712e+11)
IC Loss: tensor(0.5325)
                               BC Loss: tensor(1.7617e-11)
                                                              NS PDE Loss: tensor(62.4910)
                                                                                             Mv Bdry Los
s: tensor(4.1711e+11)
Iteration: 2600
                       Total Loss: tensor(4.1531e+11)
                                                              NS PDE Loss: tensor(62.4940)
IC Loss: tensor(0.5326)
                               BC Loss: tensor(1.7838e-11)
                                                                                             Mv Bdry Los
s: tensor(4.1530e+11)
Iteration: 2800
                       Total Loss: tensor(4.1715e+11)
IC Loss: tensor(0.5327)
                                                              NS PDE Loss: tensor(62.4942)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.7769e-11)
s: tensor(4.1714e+11)
Iteration: 3000
                       Total Loss: tensor(4.1433e+11)
IC Loss: tensor(0.5328)
                                                              NS PDE Loss: tensor(62.4963)
                               BC Loss: tensor(1.8005e-11)
                                                                                             Mv Bdry Los
s: tensor(4.1432e+11)
                       Total Loss: tensor(4.1349e+11)
Iteration: 3200
IC Loss: tensor(0.5329)
                                                              NS PDE Loss: tensor(62.4976)
                               BC Loss: tensor(1.7895e-11)
                                                                                             Mv Bdry Los
s: tensor(4.1348e+11)
                       Total Loss: tensor(4.1022e+11)
Iteration: 3400
IC Loss: tensor(0.5329)
                              BC Loss: tensor(1.8266e-11)
                                                              NS PDE Loss: tensor(62.4962)
                                                                                             Mv Bdry Los
s: tensor(4.1021e+11)
Iteration: 3600
                       Total Loss: tensor(4.1042e+11)
                                                              NS PDE Loss: tensor(62.4977)
IC Loss: tensor(0.5332)
                               BC Loss: tensor(1.8283e-11)
                                                                                             Mv Bdry Los
s: tensor(4.1041e+11)
```

<pre>Iteration: 3800</pre>			
<pre>IC Loss: tensor(0.5333)</pre> BC Loss: tensor(1.8581e-11)	NS PDE Loss:	tensor(62.4951)	Mv Bdry Los
s: tensor(4.0769e+11)			•
<pre>Iteration: 4000</pre>			
<pre>IC Loss: tensor(0.5334)</pre> BC Loss: tensor(1.8922e-11)	NS PDE Loss:	tensor(62.4978)	Mv Bdry Los
s: tensor(4.0400e+11)			·
Iteration: 4200 Total Loss: tensor(4.0805e+11)			
IC Loss: tensor(0.5334) BC Loss: tensor(1.9058e-11)	NS PDE Loss:	tensor(62.4998)	Mv Bdrv Los
s: tensor(4.0804e+11)		,	, ,
<pre>Iteration: 4400</pre>			
IC Loss: tensor(0.5335) BC Loss: tensor(1.9448e-11)	NS PDE Loss:	tensor(62,4978)	Mv Bdrv Los
s: tensor(4.0409e+11)			, ,
<pre>Iteration: 4600</pre>			
IC Loss: tensor(0.5335) BC Loss: tensor(1.9418e-11)	NS PDE Loss:	tensor(62,4971)	Mv Bdrv Los
s: tensor(4.0030e+11)		,	,
Iteration: 4800 Total Loss: tensor(4.0122e+11)			
IC Loss: tensor(0.5335) BC Loss: tensor(1.9566e-11)	NS PDE Loss:	tensor(62,4989)	Mv Bdrv Los
s: tensor(4.0121e+11)		,	,
Iteration: 5000 Total Loss: tensor(3.9812e+11)			
IC Loss: tensor(0.5335) BC Loss: tensor(1.9847e-11)	NS PDE Loss:	tensor(62,4986)	Mv Bdrv Los
s: tensor(3.9811e+11)		,	,
<pre>Iteration: 5200</pre>			
IC Loss: tensor(0.5336) BC Loss: tensor(2.0174e-11)	NS PDE Loss:	tensor(62,5001)	Mv Bdrv Los
s: tensor(3.9607e+11)		,	, ,
Iteration: 5400 Total Loss: tensor(3.9344e+11)			
	NS PDE Loss:	tensor(62.5008)	Mv Bdry Los
s: tensor(3.9343e+11)		, , , , , , , , , , , , , , , , , , , ,	,
Iteration: 5600 Total Loss: tensor(4.1331e+11)			
IC Loss: tensor(0.5335) BC Loss: tensor(2.0651e-11)	NS PDE Loss:	tensor(62,4994)	Mv Bdrv Los
s: tensor(4.1330e+11)		,	,
Iteration: 5800 Total Loss: tensor(3.9255e+11)			
IC Loss: tensor(0.5336) BC Loss: tensor(2.0853e-11)	NS PDE Loss:	tensor(62,4998)	My Bdry Los
s: tensor(3.9254e+11)			,
Iteration: 6000 Total Loss: tensor(3.8880e+11)			
IC Loss: tensor(0.5337) BC Loss: tensor(2.1139e-11)	NS PDE Loss:	tensor(62,4947)	My Bdry Los
s: tensor(3.8880e+11)		(021.0.7)	20., 200
Iteration: 6200 Total Loss: tensor(3.8938e+11)			
IC Loss: tensor(0.5337) BC Loss: tensor(2.1315e-11)	NS PDE Loss:	tensor(62.4911)	Mv Bdry Los
s: tensor(3.8937e+11)			,
Iteration: 6400 Total Loss: tensor(4.0358e+11)			
IC Loss: tensor(0.5336) BC Loss: tensor(2.1598e-11)	NS PDE Loss:	tensor(62.4899)	Mv Bdry Los
s: tensor(4.0357e+11)		, , , , , , , , , , , , , , , , , , ,	,

<pre>Iteration: 6600</pre>			
<pre>IC Loss: tensor(0.5336)</pre> BC Loss: tensor(2.1727e-11)	NS PDE Loss:	tensor(62.4888)	Mv Bdry Los
s: tensor(3.8640e+11)			•
<pre>Iteration: 6800</pre>			
<pre>IC Loss: tensor(0.5336)</pre> BC Loss: tensor(2.1911e-11)	NS PDE Loss:	tensor(62.4809)	Mv Bdry Los
s: tensor(3.8281e+11)			•
<pre>Iteration: 7000 Total Loss: tensor(3.9032e+11)</pre>			
<pre>IC Loss: tensor(0.5336)</pre> BC Loss: tensor(2.2220e-11)	NS PDE Loss:	tensor(62.4775)	Mv Bdry Los
s: tensor(3.9031e+11)			•
<pre>Iteration: 7200</pre>			
<pre>IC Loss: tensor(0.5336)</pre> BC Loss: tensor(2.2173e-11)	NS PDE Loss:	tensor(62.4734)	Mv Bdry Los
s: tensor(3.8021e+11)			•
<pre>Iteration: 7400</pre>			
<pre>IC Loss: tensor(0.5335)</pre> BC Loss: tensor(2.2462e-11)	NS PDE Loss:	tensor(62.4692)	Mv Bdry Los
s: tensor(3.7553e+11)			•
<pre>Iteration: 7600 Total Loss: tensor(3.8032e+11)</pre>			
<pre>IC Loss: tensor(0.5335)</pre> BC Loss: tensor(2.2555e-11)	NS PDE Loss:	tensor(62.4692)	Mv Bdry Los
s: tensor(3.8031e+11)			•
<pre>Iteration: 7800</pre>			
<pre>IC Loss: tensor(0.5336)</pre> BC Loss: tensor(2.2720e-11)	NS PDE Loss:	tensor(62.4652)	Mv Bdry Los
s: tensor(3.7394e+11)			
<pre>Iteration: 8000 Total Loss: tensor(3.7539e+11)</pre>			
<pre>IC Loss: tensor(0.5335)</pre> BC Loss: tensor(2.2781e-11)	NS PDE Loss:	tensor(62.4635)	Mv Bdry Los
s: tensor(3.7539e+11)			
<pre>Iteration: 8200 Total Loss: tensor(3.8901e+11)</pre>			
IC Loss: tensor(0.5334) BC Loss: tensor(2.2861e-11)	NS PDE Loss:	tensor(62.4600)	Mv Bdry Los
s: tensor(3.8900e+11)			
Iteration: 8400 Total Loss: tensor(3.6895e+11)			
IC Loss: tensor(0.5335) BC Loss: tensor(2.3001e-11)	NS PDE Loss:	tensor(62 . 4529)	Mv Bdry Los
s: tensor(3.6894e+11)			
<pre>Iteration: 8600 Total Loss: tensor(3.6708e+11)</pre>			
IC Loss: tensor(0.5333) BC Loss: tensor(2.3171e-11)	NS PDE Loss:	tensor(62.4487)	Mv Bdry Los
s: tensor(3.6707e+11)			
Iteration: 8800 Total Loss: tensor(3.6833e+11)			
IC Loss: tensor(0.5333) BC Loss: tensor(2.3174e-11)	NS PDE Loss:	tensor(62 . 4458)	Mv Bdry Los
s: tensor(3.6832e+11)			
Iteration: 9000 Total Loss: tensor(3.6640e+11)			
	NS PDE Loss:	tensor(62 . 4416)	Mv Bdry Los
s: tensor(3.6639e+11)			
Iteration: 9200 Total Loss: tensor(3.6166e+11)			
IC Loss: tensor(0.5333) BC Loss: tensor(2.3275e-11)	NS PDE Loss:	tensor(62.4403)	Mv Bdry Los
s: tensor(3.6165e+11)			

<pre>Iteration: 9400</pre>			
<pre>IC Loss: tensor(0.5332)</pre> BC Loss: tensor(2.3607e-11)	NS PDE Loss:	tensor(62.4390)	Mv Bdry Los
s: tensor(3.6114e+11)			·
<pre>Iteration: 9600</pre>			
	NS PDE Loss:	tensor(62.4355)	Mv Bdry Los
s: tensor(3.5999e+11)			•
<pre>Iteration: 9800</pre>			
IC Loss: tensor(0.5331) BC Loss: tensor(2.4041e-11)	NS PDE Loss:	tensor(62.4363)	Mv Bdrv Los
s: tensor(3.6434e+11)			,
<pre>Iteration: 10000 Total Loss: tensor(3.5407e+11)</pre>			
IC Loss: tensor(0.5330) BC Loss: tensor(2.4068e-11)	NS PDE Loss:	tensor(62.4281)	Mv Bdry Los
s: tensor(3.5406e+11)			,
<pre>Iteration: 10200</pre>			
IC Loss: tensor(0.5329) BC Loss: tensor(2.4097e-11)	NS PDE Loss:	tensor(62,4295)	Mv Bdrv Los
s: tensor(4.0628e+11)		,	, ,
<pre>Iteration: 10400</pre>			
	NS PDE Loss:	tensor(62.4268)	Mv Bdry Los
s: tensor(3.5113e+11)			,
<pre>Iteration: 10600</pre>			
<pre>IC Loss: tensor(0.5329)</pre> BC Loss: tensor(2.3983e-11)	NS PDE Loss:	tensor(62.4227)	Mv Bdry Los
s: tensor(3.5126e+11)			ĺ
<pre>Iteration: 10800</pre>			
<pre>IC Loss: tensor(0.5328)</pre> BC Loss: tensor(2.3991e-11)	NS PDE Loss:	tensor(62.4187)	Mv Bdry Los
s: tensor(3.4865e+11)			
<pre>Iteration: 11000 Total Loss: tensor(3.5066e+11)</pre>			
<pre>IC Loss: tensor(0.5329)</pre> BC Loss: tensor(2.4126e-11)	NS PDE Loss:	tensor(62.4211)	Mv Bdry Los
s: tensor(3.5065e+11)			
<pre>Iteration: 11200 Total Loss: tensor(3.4823e+11)</pre>			
<pre>IC Loss: tensor(0.5327)</pre> BC Loss: tensor(2.4292e-11)	NS PDE Loss:	tensor(62.4144)	Mv Bdry Los
s: tensor(3.4823e+11)			
<pre>Iteration: 11400</pre>			
<pre>IC Loss: tensor(0.5327)</pre> BC Loss: tensor(2.4524e-11)	NS PDE Loss:	tensor(62.4156)	Mv Bdry Los
s: tensor(3.4400e+11)			
<pre>Iteration: 11600 Total Loss: tensor(3.4742e+11)</pre>			
<pre>IC Loss: tensor(0.5326)</pre> BC Loss: tensor(2.4777e-11)	NS PDE Loss:	tensor(62.4130)	Mv Bdry Los
s: tensor(3.4741e+11)			
<pre>Iteration: 11800 Total Loss: tensor(3.5810e+11)</pre>			
IC Loss: tensor(0.5325) BC Loss: tensor(2.4789e-11)	NS PDE Loss:	tensor(62.4117)	Mv Bdry Los
s: tensor(3.5810e+11)			
<pre>Iteration: 12000 Total Loss: tensor(3.4205e+11)</pre>			
IC Loss: tensor(0.5326) BC Loss: tensor(2.4994e-11)	NS PDE Loss:	tensor(62.4111)	Mv Bdry Los
s: tensor(3.4205e+11)			

<pre>Iteration: 12200 Total Loss: tensor(3.4391e+11)</pre>			
<pre>IC Loss: tensor(0.5325)</pre> BC Loss: tensor(2.5036e-11)	NS PDE Loss:	tensor(62.4118)	Mv Bdry Los
s: tensor(3.4391e+11)			•
<pre>Iteration: 12400</pre>			
<pre>IC Loss: tensor(0.5325)</pre> BC Loss: tensor(2.5187e-11)	NS PDE Loss:	tensor(62.4096)	Mv Bdry Los
s: tensor(3.3824e+11)			·
<pre>Iteration: 12600 Total Loss: tensor(3.3609e+11)</pre>			
IC Loss: tensor(0.5324) BC Loss: tensor(2.5404e-11)	NS PDE Loss:	tensor(62.4077)	Mv Bdry Los
s: tensor(3.3609e+11)		,	, ,
<pre>Iteration: 12800</pre>			
IC Loss: tensor(0.5323) BC Loss: tensor(2.5443e-11)	NS PDE Loss:	tensor(62.4081)	Mv Bdry Los
s: tensor(3.3917e+11)		,	, ,
<pre>Iteration: 13000 Total Loss: tensor(3.3930e+11)</pre>			
IC Loss: tensor(0.5323) BC Loss: tensor(2.5669e-11)	NS PDE Loss:	tensor(62,4054)	Mv Bdry Los
s: tensor(3.3929e+11)		,	,
Iteration: 13200 Total Loss: tensor(3.3217e+11)			
IC Loss: tensor(0.5323) BC Loss: tensor(2.5576e-11)	NS PDE Loss:	tensor(62.4006)	Mv Bdry Los
s: tensor(3.3216e+11)		(021 1000)	20., 200
Iteration: 13400 Total Loss: tensor(3.8384e+11)			
IC Loss: tensor(0.5322) BC Loss: tensor(2.5688e-11)	NS PDF Loss:	tensor(62.4005)	Mv Bdry Los
s: tensor(3.8384e+11)		(021.000)	20., 200
Iteration: 13600 Total Loss: tensor(3.3045e+11)			
IC Loss: tensor(0.5323) BC Loss: tensor(2.5875e-11)	NS PDF Loss:	tensor(62.4009)	Mv Bdry Los
s: tensor(3.3044e+11)		(021.000)	20., 200
Iteration: 13800 Total Loss: tensor(3.2950e+11)			
IC Loss: tensor(0.5322) BC Loss: tensor(2.6021e-11)	NS PDF Loss:	tensor(62.3993)	Mv Bdry Los
s: tensor(3.2949e+11)	113 1 52 20331	(0213333)	50. 7 200
Iteration: 14000 Total Loss: tensor(3.3070e+11)			
IC Loss: tensor(0.5321) BC Loss: tensor(2.6008e-11)	NS PDF Loss:	tensor(62.3975)	Mv Bdry Los
s: tensor(3.3069e+11)	113 1 52 20331	(02133737	Daily 200
Iteration: 14200 Total Loss: tensor(3.3084e+11)			
IC Loss: tensor(0.5321) BC Loss: tensor(2.6151e-11)	NS PDF Loss:	tensor(62.3961)	Mv Bdry Los
s: tensor(3.3083e+11)	113 1 52 20331	(0213301)	Daily 200
Iteration: 14400 Total Loss: tensor(4.1155e+11)			
IC Loss: tensor(0.5320) BC Loss: tensor(2.6215e-11)	NS PDF Loss:	tensor(62.3972)	My Bdry Los
s: tensor(4.1154e+11)	113 102 20331	(0213372)	nv bary 205
Iteration: 14600 Total Loss: tensor(3.2951e+11)			
IC Loss: tensor(0.5319) BC Loss: tensor(2.6314e-11)	NS PDF Loss:	tensor(62.3946)	Mv Bdry Los
s: tensor(3.2950e+11)	.45 102 20331	(0213370)	Daily Los
Iteration: 14800 Total Loss: tensor(3.2345e+11)			
IC Loss: tensor(0.5319) BC Loss: tensor(2.6474e-11)	NS PDF Loss:	tensor(62.3926)	Mv Bdry Los
s: tensor(3.2344e+11)	.45 102 20331	(021301)	Daily Los
5. Comportation 117			

<pre>Iteration: 15000 Total Loss: tensor(3.2391e+11)</pre>			
<pre>IC Loss: tensor(0.5319)</pre> BC Loss: tensor(2.6550e-11)	NS PDE Loss:	tensor(62.3920)	Mv Bdry Los
s: tensor(3.2390e+11)			·
<pre>Iteration: 15200</pre>			
<pre>IC Loss: tensor(0.5319)</pre> BC Loss: tensor(2.6463e-11)	NS PDE Loss:	tensor(62.3916)	Mv Bdry Los
s: tensor(3.2993e+11)			•
<pre>Iteration: 15400 Total Loss: tensor(3.3556e+11)</pre>			
IC Loss: tensor(0.5318) BC Loss: tensor(2.6538e-11)	NS PDE Loss:	tensor(62.3907)	Mv Bdry Los
s: tensor(3.3555e+11)		,	, ,
<pre>Iteration: 15600</pre>			
	NS PDE Loss:	tensor(62.3939)	Mv Bdry Los
s: tensor(3.2335e+11)			, ,
<pre>Iteration: 15800 Total Loss: tensor(3.2487e+11)</pre>			
IC Loss: tensor(0.5316) BC Loss: tensor(2.6816e-11)	NS PDE Loss:	tensor(62.3907)	Mv Bdry Los
s: tensor(3.2486e+11)		,	,
Iteration: 16000 Total Loss: tensor(3.2027e+11)			
IC Loss: tensor(0.5317) BC Loss: tensor(2.7205e-11)	NS PDE Loss:	tensor(62.3892)	Mv Bdry Los
s: tensor(3.2027e+11)		,	,
Iteration: 16200 Total Loss: tensor(3.1766e+11)			
IC Loss: tensor(0.5316) BC Loss: tensor(2.7320e-11)	NS PDE Loss:	tensor(62.3862)	Mv Bdry Los
s: tensor(3.1765e+11)		,	,
<pre>Iteration: 16400</pre>			
IC Loss: tensor(0.5316) BC Loss: tensor(2.7384e-11)	NS PDE Loss:	tensor(62.3854)	Mv Bdrv Los
s: tensor(3.2010e+11)		,	, ,
Iteration: 16600 Total Loss: tensor(3.1543e+11)			
IC Loss: tensor(0.5316) BC Loss: tensor(2.7339e-11)	NS PDE Loss:	tensor(62.3837)	Mv Bdry Los
s: tensor(3.1543e+11)		,	,
Iteration: 16800 Total Loss: tensor(3.4420e+11)			
IC Loss: tensor(0.5315) BC Loss: tensor(2.7352e-11)	NS PDE Loss:	tensor(62.3863)	Mv Bdry Los
s: tensor(3.4420e+11)		,	,
Iteration: 17000 Total Loss: tensor(3.1875e+11)			
IC Loss: tensor(0.5315) BC Loss: tensor(2.7567e-11)	NS PDF Loss:	tensor(62.3847)	Mv Bdry Los
s: tensor(3.1874e+11)		, , ,	,
Iteration: 17200 Total Loss: tensor(3.1758e+11)			
IC Loss: tensor(0.5315) BC Loss: tensor(2.7563e-11)	NS PDF Loss:	tensor(62.3856)	My Bdry Los
s: tensor(3.1758e+11)		(021000)	20., 200
Iteration: 17400 Total Loss: tensor(3.1761e+11)			
IC Loss: tensor(0.5314) BC Loss: tensor(2.7657e-11)	NS PDE Loss:	tensor(62.3822)	Mv Bdry Los
s: tensor(3.1761e+11)		J	,
Iteration: 17600 Total Loss: tensor(3.1647e+11)			
IC Loss: tensor(0.5314) BC Loss: tensor(2.7705e-11)	NS PDF Loss:	tensor(62.3832)	Mv Bdry Los
s: tensor(3.1646e+11)		J	,

```
Iteration: 17800
                       Total Loss: tensor(3.1668e+11)
                                                              NS PDE Loss: tensor(62.3811) Mv Bdry Los
IC Loss: tensor(0.5314)
                               BC Loss: tensor(2.7710e-11)
s: tensor(3.1667e+11)
Iteration: 18000
                       Total Loss: tensor(3.1218e+11)
IC Loss: tensor(0.5314)
                                                              NS PDE Loss: tensor(62.3794)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(2.7740e-11)
s: tensor(3.1217e+11)
Iteration: 18200
                       Total Loss: tensor(3.1577e+11)
                                                              NS PDE Loss: tensor(62.3841)
IC Loss: tensor(0.5312)
                               BC Loss: tensor(2.7711e-11)
                                                                                             Mv Bdry Los
s: tensor(3.1577e+11)
Iteration: 18400
                       Total Loss: tensor(3.1099e+11)
IC Loss: tensor(0.5312)
                                                              NS PDE Loss: tensor(62.3791)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(2.7741e-11)
s: tensor(3.1098e+11)
Iteration: 18600
                       Total Loss: tensor(3.1123e+11)
IC Loss: tensor(0.5313)
                                                              NS PDE Loss: tensor(62.3809)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(2.7918e-11)
s: tensor(3.1122e+11)
Iteration: 18800
                       Total Loss: tensor(3.0649e+11)
                                                              NS PDE Loss: tensor(62.3800)
IC Loss: tensor(0.5312)
                               BC Loss: tensor(2.7962e-11)
                                                                                             Mv Bdry Los
s: tensor(3.0649e+11)
Iteration: 19000
                       Total Loss: tensor(3.0872e+11)
IC Loss: tensor(0.5311)
                                                              NS PDE Loss: tensor(62.3772)
                               BC Loss: tensor(2.8063e-11)
                                                                                             Mv Bdry Los
s: tensor(3.0872e+11)
Iteration: 19200
                       Total Loss: tensor(3.0624e+11)
IC Loss: tensor(0.5312)
                               BC Loss: tensor(2.8202e-11)
                                                              NS PDE Loss: tensor(62.3782)
                                                                                             Mv Bdry Los
s: tensor(3.0623e+11)
Iteration: 19400
                       Total Loss: tensor(3.0726e+11)
                                                              NS PDE Loss: tensor(62.3777)
IC Loss: tensor(0.5311)
                               BC Loss: tensor(2.8439e-11)
                                                                                             Mv Bdry Los
s: tensor(3.0726e+11)
Iteration: 19600
                       Total Loss: tensor(3.0568e+11)
                                                              NS PDE Loss: tensor(62.3806)
IC Loss: tensor(0.5310)
                               BC Loss: tensor(2.8608e-11)
                                                                                             Mv Bdry Los
s: tensor(3.0567e+11)
Iteration: 19800
                       Total Loss: tensor(3.0433e+11)
                                                              NS PDE Loss: tensor(62.3773)
IC Loss: tensor(0.5311)
                               BC Loss: tensor(2.8791e-11)
                                                                                             Mv Bdry Los
s: tensor(3.0432e+11)
Iteration: 20000
                       Total Loss: tensor(3.0521e+11)
IC Loss: tensor(0.5310)
                               BC Loss: tensor(2.8828e-11)
                                                              NS PDE Loss: tensor(62.3756)
                                                                                             Mv Bdry Los
s: tensor(3.0520e+11)
Executing Pass 4
Current Final Time: 0.01 Current Learning Rate: 1e-06
Iteration: 200 Total Loss: tensor(8.6694e+12)
IC Loss: tensor(0.4565)
                               BC Loss: tensor(2.8813e-11)
                                                              NS PDE Loss: tensor(61.8211) Mv Bdry Los
s: tensor(8.6694e+12)
Iteration: 400 Total Loss: tensor(5.5981e+12)
```

```
BC Loss: tensor(2.8735e-11) NS PDE Loss: tensor(61.9372) Mv Bdry Los
IC Loss: tensor(0.4597)
s: tensor(5.5981e+12)
Iteration: 600 Total Loss: tensor(3.9074e+12)
                                                             NS PDE Loss: tensor(62.0215)
IC Loss: tensor(0.4605)
                              BC Loss: tensor(2.8729e-11)
                                                                                            Mv Bdry Los
s: tensor(3.9074e+12)
Iteration: 800 Total Loss: tensor(2.7451e+12)
                                                             NS PDE Loss: tensor(62.1866)
IC Loss: tensor(0.4590)
                              BC Loss: tensor(2.8569e-11)
                                                                                            Mv Bdry Los
s: tensor(2.7451e+12)
Iteration: 1000
                      Total Loss: tensor(1.9256e+12)
                                                             NS PDE Loss: tensor(62.2309)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4587)
                              BC Loss: tensor(2.8361e-11)
s: tensor(1.9256e+12)
Iteration: 1200
                      Total Loss: tensor(1.4928e+12)
IC Loss: tensor(0.4589)
                              BC Loss: tensor(2.8188e-11)
                                                             NS PDE Loss: tensor(62.3153)
                                                                                            Mv Bdry Los
s: tensor(1.4928e+12)
Iteration: 1400
                      Total Loss: tensor(1,2564e+12)
                                                             NS PDE Loss: tensor(62.4165)
IC Loss: tensor(0.4589)
                              BC Loss: tensor(2.7397e-11)
                                                                                            Mv Bdry Los
s: tensor(1.2564e+12)
Iteration: 1600
                      Total Loss: tensor(1.1141e+12)
IC Loss: tensor(0.4585)
                                                             NS PDE Loss: tensor(62.4931)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(2.7087e-11)
s: tensor(1.1141e+12)
Iteration: 1800
                      Total Loss: tensor(1.0149e+12)
                              BC Loss: tensor(2.5969e-11)
                                                             NS PDE Loss: tensor(62.5920)
IC Loss: tensor(0.4578)
                                                                                            Mv Bdry Los
s: tensor(1.0149e+12)
Iteration: 2000
                      Total Loss: tensor(9.3401e+11)
                                                             NS PDE Loss: tensor(62.5629)
                                                                                            Mv Bdry Los
IC Loss: tensor(0.4568)
                              BC Loss: tensor(2.5546e-11)
s: tensor(9.3401e+11)
Iteration: 2200
                     Total Loss: tensor(8,6820e+11)
IC Loss: tensor(0.4559)
                              BC Loss: tensor(2.5257e-11)
                                                             NS PDE Loss: tensor(62.5666)
                                                                                            Mv Bdry Los
s: tensor(8.6820e+11)
Iteration: 2400
                      Total Loss: tensor(8.0897e+11)
IC Loss: tensor(0.4550)
                                                             NS PDE Loss: tensor(62.5984)
                              BC Loss: tensor(2.4821e-11)
                                                                                            Mv Bdry Los
s: tensor(8.0896e+11)
Iteration: 2600
                      Total Loss: tensor(7.5816e+11)
IC Loss: tensor(0.4547)
                                                             NS PDE Loss: tensor(62.6304)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(2.4098e-11)
s: tensor(7.5815e+11)
Iteration: 2800
                      Total Loss: tensor(7.1689e+11)
IC Loss: tensor(0.4540)
                                                             NS PDE Loss: tensor(62.6693)
                                                                                            Mv Bdry Los
                              BC Loss: tensor(2.4678e-11)
s: tensor(7.1688e+11)
Iteration: 3000
                       Total Loss: tensor(6.9159e+11)
                                                             NS PDE Loss: tensor(62.6899)
IC Loss: tensor(0.4532)
                              BC Loss: tensor(2.4898e-11)
                                                                                            Mv Bdry Los
s: tensor(6.9158e+11)
Iteration: 3200
                      Total Loss: tensor(6.7512e+11)
```

```
IC Loss: tensor(0.4527)
                              BC Loss: tensor(2.5325e-11)
                                                            NS PDE Loss: tensor(62.6885) Mv Bdry Los
s: tensor(6.7512e+11)
Iteration: 3400
                      Total Loss: tensor(6.6247e+11)
                                                            NS PDE Loss: tensor(62.6962)
IC Loss: tensor(0.4523)
                              BC Loss: tensor(2.6345e-11)
                                                                                           Mv Bdry Los
s: tensor(6.6246e+11)
                      Total Loss: tensor(6.5227e+11)
Iteration: 3600
                                                            NS PDE Loss: tensor(62.7083)
IC Loss: tensor(0.4519)
                              BC Loss: tensor(2.8837e-11)
                                                                                           Mv Bdry Los
s: tensor(6.5226e+11)
Iteration: 3800
                      Total Loss: tensor(6.4399e+11)
                                                            NS PDE Loss: tensor(62.7025)
                                                                                           Mv Bdry Los
IC Loss: tensor(0.4517)
                              BC Loss: tensor(3.2446e-11)
s: tensor(6.4398e+11)
Iteration: 4000
                      Total Loss: tensor(6.3670e+11)
                                                            NS PDE Loss: tensor(62.6980)
IC Loss: tensor(0.4515)
                              BC Loss: tensor(3.7462e-11)
                                                                                           Mv Bdry Los
s: tensor(6.3669e+11)
Iteration: 4200
                      Total Loss: tensor(6.3085e+11)
                                                            NS PDE Loss: tensor(62.6934)
IC Loss: tensor(0.4514)
                              BC Loss: tensor(4.2881e-11)
                                                                                           Mv Bdry Los
s: tensor(6.3085e+11)
Iteration: 4400
                      Total Loss: tensor(6.2576e+11)
                                                            NS PDE Loss: tensor(62.6897)
                                                                                           Mv Bdry Los
IC Loss: tensor(0.4513)
                              BC Loss: tensor(4.9612e-11)
s: tensor(6.2575e+11)
Iteration: 4600
                      Total Loss: tensor(6.1974e+11)
                                                            NS PDE Loss: tensor(62.6868)
IC Loss: tensor(0.4513)
                              BC Loss: tensor(5.5546e-11)
                                                                                           Mv Bdry Los
s: tensor(6.1974e+11)
Iteration: 4800
                      Total Loss: tensor(6.1464e+11)
                                                            NS PDE Loss: tensor(62.6841)
                                                                                           Mv Bdry Los
IC Loss: tensor(0.4512)
                              BC Loss: tensor(6.3099e-11)
s: tensor(6.1463e+11)
                  Total Loss: tensor(6.1100e+11)
Iteration: 5000
IC Loss: tensor(0.4512)
                              BC Loss: tensor(7.0968e-11)
                                                             NS PDE Loss: tensor(62.6812)
                                                                                           Mv Bdry Los
s: tensor(6.1100e+11)
Iteration: 5200
                      Total Loss: tensor(6.0668e+11)
IC Loss: tensor(0.4512)
                                                            NS PDE Loss: tensor(62.6784)
                              BC Loss: tensor(7.8522e-11)
                                                                                           Mv Bdry Los
s: tensor(6.0668e+11)
Iteration: 5400
                      Total Loss: tensor(6.0271e+11)
IC Loss: tensor(0.4513)
                                                            NS PDE Loss: tensor(62.6752)
                                                                                           Mv Bdry Los
                              BC Loss: tensor(8.9439e-11)
s: tensor(6.0271e+11)
Iteration: 5600
                      Total Loss: tensor(5.9820e+11)
                                                            NS PDE Loss: tensor(62.6730)
                                                                                           Mv Bdry Los
IC Loss: tensor(0.4512)
                              BC Loss: tensor(9.9653e-11)
s: tensor(5.9819e+11)
Iteration: 5800
                      Total Loss: tensor(5.9305e+11)
                                                            NS PDE Loss: tensor(62.6681)
IC Loss: tensor(0.4513)
                              BC Loss: tensor(1.1215e-10)
                                                                                           Mv Bdry Los
s: tensor(5.9304e+11)
Iteration: 6000
                      Total Loss: tensor(5.8974e+11)
```

<pre>IC Loss: tensor(0.4513) s: tensor(5.8973e+11)</pre>	BC Loss:	tensor(1.2373e-10)	NS PDE Loss:	tensor(62.6649)	Mv Bdry Los
Iteration: 6200 Total	loss: tensor	·(5.8702e+11)			
IC Loss: tensor(0.4514)			NS PDF Loss:	tensor(62.6603)	Mv Bdry Los
s: tensor(5.8702e+11)	DC LOSS!	(1130230 10)	NO THE LOSS!	(0210005)	The bury Los
Iteration: 6400 Total	loss: tensor	c(5.8262e+11)			
IC Loss: tensor(0.4515)			NS PDF Loss:	tensor(62 6571)	My Bdry Los
s: tensor(5.8261e+11)	DC LOSS!	(1140/20 10)	NS TEL 20331	(0210371)	The bury 205
Iteration: 6600 Total	loss: tensor	·(5.7909e+11)			
IC Loss: tensor(0.4515)			NS PDF Loss:	tensor(62,6521)	My Bdry Los
s: tensor(5.7908e+11)	DC 20551	(1102336 10)	113 102 20331	(0210321)	iiv bary 205
Iteration: 6800 Total	loss: tensor	c(5.7536e+11)			
IC Loss: tensor(0.4516)			NS PDF Loss:	tensor(62.6473)	Mv Bdry Los
s: tensor(5.7535e+11)	20 20001	10501 (11515 10,		(0210170)	20., 200
Iteration: 7000 Total	Loss: tensor	(5.7217e+11)			
IC Loss: tensor(0.4517)			NS PDE Loss:	tensor(62,6431)	Mv Bdry Los
s: tensor(5.7216e+11)					, ,
Iteration: 7200 Total	Loss: tensor	^(5.6923e+11)			
<pre>IC Loss: tensor(0.4518)</pre>			NS PDE Loss:	tensor(62.6382)	Mv Bdry Los
s: tensor(5.6922e+11)					•
Iteration: 7400 Total	Loss: tensor	^(5.6518e+11)			
<pre>IC Loss: tensor(0.4519)</pre>	BC Loss:	tensor(2.1522e-10)	NS PDE Loss:	tensor(62.6349)	Mv Bdry Los
s: tensor(5.6517e+11)					
Iteration: 7600 Total	Loss: tensor	^(5 . 6236e+11)			
<pre>IC Loss: tensor(0.4520)</pre>	BC Loss:	tensor(2.3109e-10)	NS PDE Loss:	tensor(62.6319)	Mv Bdry Los
s: tensor(5.6236e+11)					
Iteration: 7800 Total					
<pre>IC Loss: tensor(0.4521)</pre>	BC Loss:	tensor(2.4438e-10)	NS PDE Loss:	tensor(62.6300)	Mv Bdry Los
s: tensor(5.5950e+11)					
Iteration: 8000 Total					
<pre>IC Loss: tensor(0.4522)</pre>	BC Loss:	tensor(2.6142e-10)	NS PDE Loss:	tensor(62 . 6271)	Mv Bdry Los
s: tensor(5.5742e+11)					
Iteration: 8200 Total					
<pre>IC Loss: tensor(0.4523)</pre>	BC Loss:	tensor(2.7624e-10)	NS PDE Loss:	tensor(62 . 6249)	Mv Bdry Los
s: tensor(5.5378e+11)					
	Loss: tensor				
IC Loss: tensor(0.4524)	BC Loss:	tensor(2.9154e-10)	NS PDE Loss:	tensor(62.6243)	Mv Bdry Los
s: tensor(5.4995e+11)					
	Loss: tensor				
IC Loss: tensor(0.4525)	BC Loss:	tensor(3.0470e-10)	NS PDE Loss:	tensor(62.6225)	Mv Bdry Los
s: tensor(5.4748e+11)		/E 447E .44\			
Iteration: 8800 Total	Loss: tensor	^(5.44/5e+11)			

<pre>IC Loss: tensor(0.4526) s: tensor(5.4475e+11)</pre>	BC Loss:	tensor(3.1832e-10)	NS PDE Loss:	tensor(62.6110)	Mv Bdry Los
Iteration: 9000 Total	Loss: tenso	or(5.4142e+11)			
IC Loss: tensor(0.4527)			NS PDF Loss:	tensor(62.6016)	Mv Bdry Los
s: tensor(5.4141e+11)	20 20001			(0210020)	20., 200
Iteration: 9200 Total	Loss: tenso	or(5.3825e+11)			
IC Loss: tensor(0.4528)			NS PDE Loss:	tensor(62.5916)	Mv Bdry Los
s: tensor(5.3824e+11)	20 20001			(0210020)	20., 200
	Loss: tenso	or(5.3637e+11)			
IC Loss: tensor(0.4529)			NS PDE Loss:	tensor(62.5811)	Mv Bdrv Los
s: tensor(5.3636e+11)				,	,
	Loss: tenso	or(5.3299e+11)			
<pre>IC Loss: tensor(0.4530)</pre>			NS PDE Loss:	tensor(62,5728)	Mv Bdry Los
s: tensor(5.3298e+11)					, ,
Iteration: 9800 Total	Loss: tenso	or(5.3022e+11)			
<pre>IC Loss: tensor(0.4531)</pre>			NS PDE Loss:	tensor(62.5646)	Mv Bdry Los
s: tensor(5.3022e+11)		·			,
Iteration: 10000 Total	Loss: tenso	or(5.2745e+11)			
<pre>IC Loss: tensor(0.4532)</pre>			NS PDE Loss:	tensor(62.5573)	Mv Bdry Los
s: tensor(5.2745e+11)					·
Iteration: 10200 Total	Loss: tenso	or(5.2543e+11)			
<pre>IC Loss: tensor(0.4533)</pre>	BC Loss:	tensor(4.2632e-10)	NS PDE Loss:	tensor(62.5511)	Mv Bdry Los
s: tensor(5.2542e+11)					
Iteration: 10400 Total	Loss: tenso	or(5.2258e+11)			
<pre>IC Loss: tensor(0.4534)</pre>	BC Loss:	tensor(4.4442e-10)	NS PDE Loss:	tensor(62.5442)	Mv Bdry Los
s: tensor(5.2257e+11)					
Iteration: 10600 Total	Loss: tenso	or(5.2016e+11)			
<pre>IC Loss: tensor(0.4535)</pre>	BC Loss:	tensor(4.5881e-10)	NS PDE Loss:	tensor(62.5378)	Mv Bdry Los
s: tensor(5.2015e+11)					
Iteration: 10800 Total	Loss: tenso	or(5.1724e+11)			
<pre>IC Loss: tensor(0.4536)</pre>	BC Loss:	tensor(4.7741e-10)	NS PDE Loss:	tensor(62.5321)	Mv Bdry Los
s: tensor(5.1724e+11)					
Iteration: 11000 Total		-			
<pre>IC Loss: tensor(0.4537)</pre>	BC Loss:	tensor(4 . 9524e-10)	NS PDE Loss:	tensor(62 . 5265)	Mv Bdry Los
s: tensor(5.1461e+11)					
		or(5.1182e+11)			
IC Loss: tensor(0.4538)	BC Loss:	tensor(5.1231e-10)	NS PDE Loss:	tensor(62 . 5213)	Mv Bdry Los
s: tensor(5.1181e+11)					
		or(5.0914e+11)			
IC Loss: tensor(0.4538)	BC Loss:	tensor(5.3038e-10)	NS PDE Loss:	tensor(62.5170)	Mv Bdry Los
s: tensor(5.0913e+11)		/=			
Iteration: 11600 Total	Loss: tenso	or(5.0669e+11)			

<pre>IC Loss: tensor(0.4539) s: tensor(5.0668e+11)</pre>	BC Loss: tensor(5.4790e-10)	NS PDE Loss:	tensor(62.5113)	Mv Bdry Los
Iteration: 11800 Total	Loss: tensor(5.0423e+11)			
	BC Loss: tensor(5.6598e-10)	NS PDE Loss:	tensor(62.5065)	Mv Bdry Los
Iteration: 12000 Total	Loss: tensor(5.0167e+11)			
	BC Loss: tensor(5.8501e-10)	NS PDE Loss:	tensor(62.5022)	Mv Bdry Los
s: tensor(5.0167e+11)			,	,
Iteration: 12200 Total	Loss: tensor(4.9932e+11)			
	BC Loss: tensor(5.9592e-10)	NS PDE Loss:	tensor(62.4972)	Mv Bdry Los
s: tensor(4.9932e+11)	20 2001 1050. (0.100020 20)		(01111111111111111111111111111111111111	20., 200
	Loss: tensor(4.9719e+11)			
	BC Loss: tensor(6.0846e-10)	NS PDF Loss:	tensor(62.4933)	Mv Bdry Los
s: tensor(4.9719e+11)	20 2001 1050. (0100.100 20)		(021.000)	20., 200
Iteration: 12600 Total	Loss: tensor(4.9462e+11)			
	BC Loss: tensor(6.3166e-10)	NS PDF Loss:	tensor(62.4886)	Mv Bdry Los
s: tensor(4.9461e+11)	20 2001 1050. (0102000 20)		(021.000)	20., 200
Iteration: 12800 Total	Loss: tensor(4.9205e+11)			
	BC Loss: tensor(6.4759e-10)	NS PDF Loss:	tensor(62.4845)	Mv Bdry Los
s: tensor(4.9205e+11)	20 2001 10501 (01550 20)		(021.0.0)	20., 200
Iteration: 13000 Total	Loss: tensor(4.8970e+11)			
	BC Loss: tensor(6.6502e-10)	NS PDF Loss:	tensor(62.4799)	Mv Bdry Los
s: tensor(4.8970e+11)	20 2001 1050. (0105020 20)		(021.700)	20., 200
Iteration: 13200 Total	Loss: tensor(4.8713e+11)			
	BC Loss: tensor(6.8164e-10)	NS PDE Loss:	tensor(62.4768)	Mv Bdry Los
s: tensor(4.8713e+11)				,
	Loss: tensor(4.8490e+11)			
	BC Loss: tensor(7.0079e-10)	NS PDE Loss:	tensor(62.4738)	Mv Bdry Los
s: tensor(4.8489e+11)				,
	Loss: tensor(4.8218e+11)			
	BC Loss: tensor(7.1237e-10)	NS PDE Loss:	tensor(62.4701)	Mv Bdry Los
s: tensor(4.8217e+11)				,
Iteration: 13800 Total	Loss: tensor(4.8022e+11)			
		NS PDE Loss:	tensor(62.4666)	Mv Bdry Los
s: tensor(4.8022e+11)				,
Iteration: 14000 Total	Loss: tensor(4.7749e+11)			
<pre>IC Loss: tensor(0.4546)</pre>	BC Loss: tensor(7.5293e-10)	NS PDE Loss:	tensor(62.4637)	Mv Bdry Los
s: tensor(4.7748e+11)				,
	Loss: tensor(4.7532e+11)			
IC Loss: tensor(0.4546)	BC Loss: tensor(7.6733e-10)	NS PDE Loss:	tensor(62.4613)	Mv Bdry Los
s: tensor(4.7532e+11)				,
	Loss: tensor(4.7272e+11)			

```
IC Loss: tensor(0.4547)
                               BC Loss: tensor(7.8142e-10)
                                                              NS PDE Loss: tensor(62.4592) Mv Bdry Los
s: tensor(4.7272e+11)
Iteration: 14600
                       Total Loss: tensor(4.7065e+11)
IC Loss: tensor(0.4547)
                               BC Loss: tensor(7.9111e-10)
                                                              NS PDE Loss: tensor(62.4570)
                                                                                              Mv Bdry Los
s: tensor(4.7064e+11)
Iteration: 14800
                       Total Loss: tensor(4.6859e+11)
                                                              NS PDE Loss: tensor(62.4542)
IC Loss: tensor(0.4548)
                               BC Loss: tensor(8.0430e-10)
                                                                                              Mv Bdry Los
s: tensor(4.6858e+11)
Iteration: 15000
                       Total Loss: tensor(4.6618e+11)
                                                              NS PDE Loss: tensor(62.4521)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4549)
                               BC Loss: tensor(8.1646e-10)
s: tensor(4.6618e+11)
Iteration: 15200
                       Total Loss: tensor(4.6402e+11)
                                                              NS PDE Loss: tensor(62.4505)
IC Loss: tensor(0.4549)
                               BC Loss: tensor(8.2873e-10)
                                                                                              Mv Bdry Los
s: tensor(4.6402e+11)
Iteration: 15400
                       Total Loss: tensor(4.6214e+11)
                                                              NS PDE Loss: tensor(62.4478)
IC Loss: tensor(0.4550)
                               BC Loss: tensor(8.4161e-10)
                                                                                              Mv Bdry Los
s: tensor(4.6214e+11)
Iteration: 15600
                       Total Loss: tensor(4.5932e+11)
IC Loss: tensor(0.4550)
                                                              NS PDE Loss: tensor(62.4459)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(8.5986e-10)
s: tensor(4.5931e+11)
Iteration: 15800
                       Total Loss: tensor(4.5734e+11)
                                                              NS PDE Loss: tensor(62.4443)
IC Loss: tensor(0.4550)
                               BC Loss: tensor(8.7194e-10)
                                                                                              Mv Bdry Los
s: tensor(4.5733e+11)
Iteration: 16000
                       Total Loss: tensor(4.5499e+11)
                                                              NS PDE Loss: tensor(62.4427)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4551)
                               BC Loss: tensor(8.8449e-10)
s: tensor(4.5498e+11)
Iteration: 16200
                       Total Loss: tensor(4.5275e+11)
IC Loss: tensor(0.4551)
                               BC Loss: tensor(8.9702e-10)
                                                              NS PDE Loss: tensor(62.4414)
                                                                                              Mv Bdry Los
s: tensor(4.5275e+11)
Iteration: 16400
                       Total Loss: tensor(4.5046e+11)
                                                              NS PDE Loss: tensor(62.4406)
IC Loss: tensor(0.4552)
                               BC Loss: tensor(9.0668e-10)
                                                                                              Mv Bdry Los
s: tensor(4.5046e+11)
Iteration: 16600
                       Total Loss: tensor(4.4813e+11)
                                                              NS PDE Loss: tensor(62.4391)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4552)
                               BC Loss: tensor(9.1563e-10)
s: tensor(4.4813e+11)
Iteration: 16800
                       Total Loss: tensor(4.4597e+11)
                                                              NS PDE Loss: tensor(62.4382)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4552)
                               BC Loss: tensor(9.2812e-10)
s: tensor(4.4597e+11)
Iteration: 17000
                       Total Loss: tensor(4.4391e+11)
                                                              NS PDE Loss: tensor(62.4364)
IC Loss: tensor(0.4552)
                               BC Loss: tensor(9.3882e-10)
                                                                                              Mv Bdry Los
s: tensor(4.4390e+11)
Iteration: 17200
                       Total Loss: tensor(4.4242e+11)
```

```
IC Loss: tensor(0.4553)
                               BC Loss: tensor(9.4704e-10)
                                                              NS PDE Loss: tensor(62.4349) Mv Bdry Los
s: tensor(4.4241e+11)
Iteration: 17400
                       Total Loss: tensor(4.3970e+11)
IC Loss: tensor(0.4553)
                               BC Loss: tensor(9.6050e-10)
                                                               NS PDE Loss: tensor(62.4337)
                                                                                              Mv Bdry Los
s: tensor(4.3970e+11)
Iteration: 17600
                       Total Loss: tensor(4.3805e+11)
                                                              NS PDE Loss: tensor(62.4321)
IC Loss: tensor(0.4553)
                               BC Loss: tensor(9.7396e-10)
                                                                                              Mv Bdry Los
s: tensor(4.3804e+11)
Iteration: 17800
                       Total Loss: tensor(4.3555e+11)
                                                              NS PDE Loss: tensor(62.4305)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4554)
                               BC Loss: tensor(9.8833e-10)
s: tensor(4.3555e+11)
Iteration: 18000
                       Total Loss: tensor(4.3352e+11)
                                                              NS PDE Loss: tensor(62.4296)
IC Loss: tensor(0.4554)
                               BC Loss: tensor(9.9592e-10)
                                                                                              Mv Bdry Los
s: tensor(4.3351e+11)
Iteration: 18200
                       Total Loss: tensor(4.3166e+11)
                                                              NS PDE Loss: tensor(62.4283)
IC Loss: tensor(0.4554)
                               BC Loss: tensor(1.0014e-09)
                                                                                              Mv Bdry Los
s: tensor(4.3166e+11)
Iteration: 18400
                       Total Loss: tensor(4.2899e+11)
IC Loss: tensor(0.4554)
                                                              NS PDE Loss: tensor(62.4274)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.0130e-09)
s: tensor(4.2899e+11)
Iteration: 18600
                       Total Loss: tensor(4.2718e+11)
                                                              NS PDE Loss: tensor(62.4273)
IC Loss: tensor(0.4554)
                               BC Loss: tensor(1.0277e-09)
                                                                                              Mv Bdry Los
s: tensor(4.2718e+11)
Iteration: 18800
                       Total Loss: tensor(4.2523e+11)
                                                              NS PDE Loss: tensor(62.4263)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4555)
                               BC Loss: tensor(1.0355e-09)
s: tensor(4.2522e+11)
Iteration: 19000
                       Total Loss: tensor(4.2302e+11)
IC Loss: tensor(0.4555)
                               BC Loss: tensor(1.0443e-09)
                                                              NS PDE Loss: tensor(62.4260)
                                                                                              Mv Bdry Los
s: tensor(4.2301e+11)
Iteration: 19200
                       Total Loss: tensor(4,2122e+11)
                                                              NS PDE Loss: tensor(62.4249)
IC Loss: tensor(0.4555)
                               BC Loss: tensor(1.0520e-09)
                                                                                              Mv Bdry Los
s: tensor(4.2122e+11)
Iteration: 19400
                       Total Loss: tensor(4.1945e+11)
                                                              NS PDE Loss: tensor(62.4244)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4555)
                               BC Loss: tensor(1.0605e-09)
s: tensor(4.1945e+11)
Iteration: 19600
                       Total Loss: tensor(4.1781e+11)
                                                              NS PDE Loss: tensor(62.4240)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.4556)
                               BC Loss: tensor(1.0662e-09)
s: tensor(4.1780e+11)
Iteration: 19800
                       Total Loss: tensor(4.1505e+11)
                                                              NS PDE Loss: tensor(62.4228)
IC Loss: tensor(0.4556)
                               BC Loss: tensor(1.0854e-09)
                                                                                              Mv Bdry Los
s: tensor(4.1504e+11)
Iteration: 20000
                       Total Loss: tensor(4.1310e+11)
```

```
BC Loss: tensor(1.1016e-09)
                                                             NS PDE Loss: tensor(62.4203) Mv Bdry Los
IC Loss: tensor(0.4556)
s: tensor(4.1310e+11)
Current Final Time: 0.1 Current Learning Rate: 1e-06
Iteration: 200 Total Loss: tensor(1.6107e+13)
IC Loss: tensor(0.5338)
                                                              NS PDE Loss: tensor(63.8770)
                               BC Loss: tensor(1.1020e-09)
                                                                                             Mv Bdry Los
s: tensor(1.6107e+13)
Iteration: 400 Total Loss: tensor(7.9998e+12)
                                                              NS PDE Loss: tensor(64.6445)
IC Loss: tensor(0.5286)
                               BC Loss: tensor(1.1019e-09)
                                                                                             Mv Bdry Los
s: tensor(7.9998e+12)
Iteration: 600 Total Loss: tensor(5.8612e+12)
                                                              NS PDE Loss: tensor(64.6403)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.5290)
                               BC Loss: tensor(1.1019e-09)
s: tensor(5.8612e+12)
Iteration: 800 Total Loss: tensor(5.0457e+12)
                                                              NS PDE Loss: tensor(64.5614)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.5292)
                               BC Loss: tensor(1.1014e-09)
s: tensor(5.0457e+12)
Iteration: 1000
                       Total Loss: tensor(4.6279e+12)
                                                              NS PDE Loss: tensor(64.4480)
IC Loss: tensor(0.5295)
                               BC Loss: tensor(1.1010e-09)
                                                                                             Mv Bdry Los
s: tensor(4.6279e+12)
Iteration: 1200
                       Total Loss: tensor(4.2950e+12)
IC Loss: tensor(0.5299)
                                                              NS PDE Loss: tensor(64.3157)
                               BC Loss: tensor(1.0987e-09)
                                                                                             Mv Bdry Los
s: tensor(4.2950e+12)
Iteration: 1400
                       Total Loss: tensor(2,4997e+12)
IC Loss: tensor(0.5292)
                               BC Loss: tensor(1.0979e-09)
                                                              NS PDE Loss: tensor(64.1281)
                                                                                             Mv Bdry Los
s: tensor(2.4997e+12)
Iteration: 1600
                       Total Loss: tensor(2.1238e+12)
                                                              NS PDE Loss: tensor(64.1391)
IC Loss: tensor(0.5295)
                               BC Loss: tensor(1.0979e-09)
                                                                                             Mv Bdry Los
s: tensor(2.1238e+12)
Iteration: 1800
                       Total Loss: tensor(2.1325e+12)
IC Loss: tensor(0.5297)
                                                              NS PDE Loss: tensor(64.1467)
                               BC Loss: tensor(1,0979e-09)
                                                                                             Mv Bdry Los
s: tensor(2.1325e+12)
Iteration: 2000
                       Total Loss: tensor(2.0346e+12)
                                                              NS PDE Loss: tensor(64.1541)
IC Loss: tensor(0.5301)
                               BC Loss: tensor(1.0979e-09)
                                                                                             Mv Bdry Los
s: tensor(2.0346e+12)
Iteration: 2200
                       Total Loss: tensor(1.9256e+12)
IC Loss: tensor(0.5301)
                                                              NS PDE Loss: tensor(64.1484)
                               BC Loss: tensor(1.0979e-09)
                                                                                             Mv Bdry Los
s: tensor(1.9256e+12)
Iteration: 2400
                       Total Loss: tensor(1.8813e+12)
IC Loss: tensor(0.5303)
                               BC Loss: tensor(1.0979e-09)
                                                              NS PDE Loss: tensor(64.1382)
                                                                                             Mv Bdry Los
s: tensor(1.8813e+12)
Iteration: 2600
                       Total Loss: tensor(1.8297e+12)
                                                              NS PDE Loss: tensor(64.1339)
IC Loss: tensor(0.5304)
                               BC Loss: tensor(1.0979e-09)
                                                                                             Mv Bdry Los
s: tensor(1.8297e+12)
```

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Iteration: 2800
                       Total Loss: tensor(1.8355e+12)
                                                              NS PDE Loss: tensor(64.1288)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.5304)
                               BC Loss: tensor(1.0978e-09)
s: tensor(1.8355e+12)
Iteration: 3000
                       Total Loss: tensor(1.7764e+12)
IC Loss: tensor(0.5305)
                                                              NS PDE Loss: tensor(64.1262)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0978e-09)
s: tensor(1.7764e+12)
Iteration: 3200
                       Total Loss: tensor(1.7839e+12)
                                                              NS PDE Loss: tensor(64.1247)
IC Loss: tensor(0.5305)
                               BC Loss: tensor(1.0978e-09)
                                                                                             Mv Bdry Los
s: tensor(1.7839e+12)
Iteration: 3400
                       Total Loss: tensor(1.7847e+12)
IC Loss: tensor(0.5305)
                                                              NS PDE Loss: tensor(64.1243)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0978e-09)
s: tensor(1.7847e+12)
Iteration: 3600
                       Total Loss: tensor(1.7217e+12)
                                                              NS PDE Loss: tensor(64.1241)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.5306)
                               BC Loss: tensor(1.0978e-09)
s: tensor(1.7217e+12)
Iteration: 3800
                       Total Loss: tensor(1.7080e+12)
                                                              NS PDE Loss: tensor(64.1236)
IC Loss: tensor(0.5306)
                               BC Loss: tensor(1.0978e-09)
                                                                                             Mv Bdry Los
s: tensor(1.7080e+12)
Iteration: 4000
                       Total Loss: tensor(1.6834e+12)
IC Loss: tensor(0.5307)
                                                              NS PDE Loss: tensor(64.1236)
                               BC Loss: tensor(1,0977e-09)
                                                                                             Mv Bdry Los
s: tensor(1.6834e+12)
Iteration: 4200
                       Total Loss: tensor(2,0086e+12)
IC Loss: tensor(0.5307)
                               BC Loss: tensor(1.0977e-09)
                                                              NS PDE Loss: tensor(64.1225)
                                                                                             Mv Bdry Los
s: tensor(2.0086e+12)
Iteration: 4400
                       Total Loss: tensor(1.6705e+12)
                                                              NS PDE Loss: tensor(64.1223)
IC Loss: tensor(0.5307)
                               BC Loss: tensor(1.0977e-09)
                                                                                             Mv Bdry Los
s: tensor(1.6705e+12)
Iteration: 4600
                       Total Loss: tensor(1.6460e+12)
IC Loss: tensor(0.5308)
                                                              NS PDE Loss: tensor(64.1218)
                               BC Loss: tensor(1.0977e-09)
                                                                                             Mv Bdry Los
s: tensor(1.6460e+12)
Iteration: 4800
                       Total Loss: tensor(1.6361e+12)
                                                              NS PDE Loss: tensor(64.1214)
IC Loss: tensor(0.5308)
                               BC Loss: tensor(1.0977e-09)
                                                                                             Mv Bdry Los
s: tensor(1.6361e+12)
Iteration: 5000
                       Total Loss: tensor(1.8543e+12)
IC Loss: tensor(0.5309)
                                                              NS PDE Loss: tensor(64.1212)
                               BC Loss: tensor(1.0977e-09)
                                                                                             Mv Bdry Los
s: tensor(1.8542e+12)
Iteration: 5200
                       Total Loss: tensor(1.6050e+12)
IC Loss: tensor(0.5309)
                               BC Loss: tensor(1.0977e-09)
                                                              NS PDE Loss: tensor(64.1217)
                                                                                             Mv Bdry Los
s: tensor(1.6050e+12)
Iteration: 5400
                       Total Loss: tensor(1.8501e+12)
                                                              NS PDE Loss: tensor(64.1231)
IC Loss: tensor(0.5310)
                               BC Loss: tensor(1.0976e-09)
                                                                                             Mv Bdry Los
s: tensor(1.8501e+12)
```

<pre>Iteration: 5600</pre>			
<pre>IC Loss: tensor(0.5310)</pre> BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1228)	Mv Bdry Los
s: tensor(1.6754e+12)			•
<pre>Iteration: 5800</pre>			
<pre>IC Loss: tensor(0.5310)</pre> BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1235)	Mv Bdry Los
s: tensor(1.5823e+12)			•
Iteration: 6000 Total Loss: tensor(1.5836e+12)			
IC Loss: tensor(0.5311) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1235)	Mv Bdrv Los
s: tensor(1.5835e+12)			,
Iteration: 6200 Total Loss: tensor(1.6085e+12)			
IC Loss: tensor(0.5311) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1244)	Mv Bdrv Los
s: tensor(1.6085e+12)		,	,
Iteration: 6400 Total Loss: tensor(1.6409e+12)			
IC Loss: tensor(0.5311) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64,1249)	Mv Bdrv Los
s: tensor(1.6409e+12)			···· - ··· , - · · ·
Iteration: 6600 Total Loss: tensor(1.6733e+12)			
IC Loss: tensor(0.5311) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1253)	Mv Bdrv Los
s: tensor(1.6733e+12)			···· - ··· , - · · ·
Iteration: 6800 Total Loss: tensor(1.6302e+12)			
IC Loss: tensor(0.5311) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64,1255)	Mv Bdrv Los
s: tensor(1.6302e+12)			···· - ··· , - · · ·
<pre>Iteration: 7000 Total Loss: tensor(1.6692e+12)</pre>			
IC Loss: tensor(0.5312) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1259)	Mv Bdrv Los
s: tensor(1.6692e+12)			,
Iteration: 7200 Total Loss: tensor(1.6168e+12)			
IC Loss: tensor(0.5312) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1260)	Mv Bdry Los
s: tensor(1.6168e+12)			···· - ··· , - · · ·
Iteration: 7400 Total Loss: tensor(1.5797e+12)			
IC Loss: tensor(0.5312) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64.1263)	Mv Bdrv Los
s: tensor(1.5797e+12)			···· - ··· , - · · ·
Iteration: 7600 Total Loss: tensor(1.6372e+12)			
IC Loss: tensor(0.5313) BC Loss: tensor(1.0976e-09)	NS PDE Loss:	tensor(64,1262)	Mv Bdrv Los
s: tensor(1.6372e+12)		, , , , , , , , , , , , , , , , , , , ,	···· - ··· , - · · ·
Iteration: 7800 Total Loss: tensor(1.5375e+12)			
IC Loss: tensor(0.5313) BC Loss: tensor(1.0976e-09)	NS PDF Loss:	tensor(64,1259)	My Bdry Los
s: tensor(1.5375e+12)		(0.11220)	20., 200
Iteration: 8000 Total Loss: tensor(1.5402e+12)			
IC Loss: tensor(0.5313) BC Loss: tensor(1.0975e-09)	NS PDE Loss:	tensor(64.1253)	Mv Bdry Los
s: tensor(1.5402e+12)		, , , , , , , , , , , , , , , , , , ,	,
Iteration: 8200 Total Loss: tensor(1.5364e+12)			
IC Loss: tensor(0.5313) BC Loss: tensor(1.0975e-09)	NS PDE Loss:	tensor(64.1252)	Mv Bdry Los
s: tensor(1.5364e+12)		, , , , , , , , , , , , , , , , , , ,	,

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Iteration: 8400
                       Total Loss: tensor(1.5502e+12)
                                                              NS PDE Loss: tensor(64.1250) Mv Bdry Los
IC Loss: tensor(0.5313)
                               BC Loss: tensor(1.0975e-09)
s: tensor(1.5502e+12)
Iteration: 8600
                       Total Loss: tensor(1.5661e+12)
IC Loss: tensor(0.5313)
                               BC Loss: tensor(1.0975e-09)
                                                              NS PDE Loss: tensor(64.1250)
                                                                                             Mv Bdry Los
s: tensor(1.5661e+12)
Iteration: 8800
                       Total Loss: tensor(1.5192e+12)
IC Loss: tensor(0.5314)
                               BC Loss: tensor(1.0975e-09)
                                                              NS PDE Loss: tensor(64.1245)
                                                                                             Mv Bdry Los
s: tensor(1.5192e+12)
Iteration: 9000
                       Total Loss: tensor(1.5300e+12)
IC Loss: tensor(0.5314)
                                                              NS PDE Loss: tensor(64.1238)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0975e-09)
s: tensor(1.5300e+12)
Iteration: 9200
                       Total Loss: tensor(1.9743e+12)
IC Loss: tensor(0.5315)
                                                              NS PDE Loss: tensor(64.1224)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0975e-09)
s: tensor(1.9743e+12)
Iteration: 9400
                       Total Loss: tensor(1.5940e+12)
                                                              NS PDE Loss: tensor(64.1230)
IC Loss: tensor(0.5315)
                               BC Loss: tensor(1.0975e-09)
                                                                                             Mv Bdry Los
s: tensor(1.5940e+12)
Iteration: 9600
                       Total Loss: tensor(1.5076e+12)
IC Loss: tensor(0.5316)
                                                              NS PDE Loss: tensor(64.1223)
                               BC Loss: tensor(1.0975e-09)
                                                                                             Mv Bdry Los
s: tensor(1.5076e+12)
Iteration: 9800
                       Total Loss: tensor(1.4705e+12)
IC Loss: tensor(0.5316)
                               BC Loss: tensor(1.0974e-09)
                                                              NS PDE Loss: tensor(64.1217)
                                                                                             Mv Bdry Los
s: tensor(1.4705e+12)
Iteration: 10000
                       Total Loss: tensor(1.5238e+12)
                                                              NS PDE Loss: tensor(64.1222)
IC Loss: tensor(0.5316)
                               BC Loss: tensor(1.0974e-09)
                                                                                             Mv Bdry Los
s: tensor(1.5238e+12)
Iteration: 10200
                       Total Loss: tensor(1.4568e+12)
IC Loss: tensor(0.5317)
                                                              NS PDE Loss: tensor(64.1218)
                                                                                             Mv Bdry Los
                               BC Loss: tensor(1.0974e-09)
s: tensor(1.4568e+12)
Iteration: 10400
                       Total Loss: tensor(1.4699e+12)
                                                              NS PDE Loss: tensor(64.1216)
IC Loss: tensor(0.5317)
                               BC Loss: tensor(1.0974e-09)
                                                                                             Mv Bdry Los
s: tensor(1.4699e+12)
Iteration: 10600
                       Total Loss: tensor(1.4555e+12)
                                                              NS PDE Loss: tensor(64.1212)
IC Loss: tensor(0.5317)
                               BC Loss: tensor(1.0974e-09)
                                                                                             Mv Bdry Los
s: tensor(1.4555e+12)
Iteration: 10800
                       Total Loss: tensor(1.4639e+12)
IC Loss: tensor(0.5317)
                               BC Loss: tensor(1.0974e-09)
                                                              NS PDE Loss: tensor(64.1212)
                                                                                             Mv Bdry Los
s: tensor(1.4639e+12)
Iteration: 11000
                       Total Loss: tensor(1.5113e+12)
                                                              NS PDE Loss: tensor(64.1215)
IC Loss: tensor(0.5318)
                               BC Loss: tensor(1.0974e-09)
                                                                                             Mv Bdry Los
s: tensor(1.5113e+12)
```

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Iteration: 11200
                       Total Loss: tensor(1.5419e+12)
                                                              NS PDE Loss: tensor(64.1210)
                                                                                             Mv Bdry Los
IC Loss: tensor(0.5318)
                               BC Loss: tensor(1.0973e-09)
s: tensor(1.5419e+12)
Iteration: 11400
                       Total Loss: tensor(1.5170e+12)
IC Loss: tensor(0.5318)
                                                              NS PDE Loss: tensor(64.1207)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.0973e-09)
s: tensor(1.5170e+12)
Iteration: 11600
                       Total Loss: tensor(1.5213e+12)
                                                              NS PDE Loss: tensor(64.1216)
IC Loss: tensor(0.5318)
                               BC Loss: tensor(1.0974e-09)
                                                                                              Mv Bdry Los
s: tensor(1.5212e+12)
Iteration: 11800
                       Total Loss: tensor(1.5015e+12)
IC Loss: tensor(0.5319)
                                                              NS PDE Loss: tensor(64.1214)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.0973e-09)
s: tensor(1.5015e+12)
Iteration: 12000
                       Total Loss: tensor(1.4274e+12)
                                                              NS PDE Loss: tensor(64.1210)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.5319)
                               BC Loss: tensor(1.0973e-09)
s: tensor(1.4274e+12)
Iteration: 12200
                       Total Loss: tensor(1.4526e+12)
                                                              NS PDE Loss: tensor(64.1217)
IC Loss: tensor(0.5319)
                               BC Loss: tensor(1.0973e-09)
                                                                                              Mv Bdry Los
s: tensor(1.4526e+12)
Iteration: 12400
                       Total Loss: tensor(1.4709e+12)
IC Loss: tensor(0.5320)
                                                              NS PDE Loss: tensor(64.1214)
                               BC Loss: tensor(1.0973e-09)
                                                                                              Mv Bdry Los
s: tensor(1.4709e+12)
Iteration: 12600
                       Total Loss: tensor(2.0838e+12)
IC Loss: tensor(0.5320)
                               BC Loss: tensor(1.0973e-09)
                                                              NS PDE Loss: tensor(64.1215)
                                                                                              Mv Bdry Los
s: tensor(2.0838e+12)
Iteration: 12800
                       Total Loss: tensor(1.4168e+12)
                                                              NS PDE Loss: tensor(64.1218)
IC Loss: tensor(0.5320)
                               BC Loss: tensor(1.0973e-09)
                                                                                              Mv Bdry Los
s: tensor(1.4168e+12)
Iteration: 13000
                       Total Loss: tensor(1,4128e+12)
                                                              NS PDE Loss: tensor(64.1218)
IC Loss: tensor(0.5321)
                               BC Loss: tensor(1.0973e-09)
                                                                                              Mv Bdry Los
s: tensor(1.4128e+12)
Iteration: 13200
                       Total Loss: tensor(1.7178e+12)
                                                              NS PDE Loss: tensor(64.1216)
IC Loss: tensor(0.5321)
                               BC Loss: tensor(1,0972e-09)
                                                                                              Mv Bdry Los
s: tensor(1.7178e+12)
Iteration: 13400
                       Total Loss: tensor(1.5503e+12)
                                                              NS PDE Loss: tensor(64.1213)
IC Loss: tensor(0.5321)
                               BC Loss: tensor(1.0972e-09)
                                                                                              Mv Bdry Los
s: tensor(1.5503e+12)
Iteration: 13600
                       Total Loss: tensor(1,6120e+12)
IC Loss: tensor(0.5322)
                               BC Loss: tensor(1.0972e-09)
                                                              NS PDE Loss: tensor(64.1213)
                                                                                              Mv Bdry Los
s: tensor(1.6120e+12)
Iteration: 13800
                       Total Loss: tensor(1.4561e+12)
                               BC Loss: tensor(1.0972e-09)
                                                              NS PDE Loss: tensor(64.1221)
IC Loss: tensor(0.5322)
                                                                                              Mv Bdry Los
s: tensor(1.4561e+12)
```

<pre>Iteration: 14000</pre>			
<pre>IC Loss: tensor(0.5322)</pre> BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1217)	Mv Bdry Los
s: tensor(1.3983e+12)			·
<pre>Iteration: 14200</pre>			
<pre>IC Loss: tensor(0.5322)</pre> BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1216)	Mv Bdry Los
s: tensor(1.4252e+12)			•
<pre>Iteration: 14400</pre>			
IC Loss: tensor(0.5322) BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1211)	Mv Bdry Los
s: tensor(1.4071e+12)		,	, ,
Iteration: 14600 Total Loss: tensor(1.4764e+12)			
IC Loss: tensor(0.5322) BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1214)	Mv Bdry Los
s: tensor(1.4764e+12)			,
Iteration: 14800 Total Loss: tensor(1.3858e+12)			
IC Loss: tensor(0.5323) BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1214)	My Bdry Los
s: tensor(1.3858e+12)			,
Iteration: 15000 Total Loss: tensor(1.3897e+12)			
IC Loss: tensor(0.5323) BC Loss: tensor(1.0972e-09)	NS PDF Loss:	tensor(64.1214)	Mv Bdry Los
s: tensor(1.3897e+12)			,
Iteration: 15200 Total Loss: tensor(1.5076e+12)			
IC Loss: tensor(0.5323) BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1206)	Mv Bdry Los
s: tensor(1.5076e+12)			, ,
<pre>Iteration: 15400</pre>			
IC Loss: tensor(0.5323) BC Loss: tensor(1.0972e-09)	NS PDE Loss:	tensor(64.1209)	Mv Bdry Los
s: tensor(1.5142e+12)			,
<pre>Iteration: 15600 Total Loss: tensor(1.3899e+12)</pre>			
IC Loss: tensor(0.5323) BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1200)	Mv Bdry Los
s: tensor(1.3899e+12)			, ,
<pre>Iteration: 15800</pre>			
<pre>IC Loss: tensor(0.5324)</pre> BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1198)	Mv Bdry Los
s: tensor(1.3674e+12)			,
<pre>Iteration: 16000</pre>			
<pre>IC Loss: tensor(0.5324)</pre> BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1191)	Mv Bdry Los
s: tensor(1.5039e+12)			•
Iteration: 16200 Total Loss: tensor(1.8665e+12)			
IC Loss: tensor(0.5324) BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1183)	Mv Bdry Los
s: tensor(1.8665e+12)			,
<pre>Iteration: 16400</pre>			
IC Loss: tensor(0.5324) BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1189)	Mv Bdry Los
s: tensor(1.3534e+12)			,
Iteration: 16600 Total Loss: tensor(1.3893e+12)			
IC Loss: tensor(0.5324) BC Loss: tensor(1.0971e-09)	NS PDE Loss:	tensor(64.1190)	Mv Bdry Los
s: tensor(1.3893e+12)			,

```
Iteration: 16800
                       Total Loss: tensor(1.6591e+12)
                                                              NS PDE Loss: tensor(64.1178) Mv Bdry Los
IC Loss: tensor(0.5325)
                               BC Loss: tensor(1.0971e-09)
s: tensor(1.6591e+12)
Iteration: 17000
                       Total Loss: tensor(1.4267e+12)
IC Loss: tensor(0.5325)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.0971e-09)
                                                              NS PDE Loss: tensor(64.1180)
s: tensor(1.4267e+12)
Iteration: 17200
                       Total Loss: tensor(1.4463e+12)
                                                              NS PDE Loss: tensor(64.1175)
IC Loss: tensor(0.5325)
                               BC Loss: tensor(1.0970e-09)
                                                                                              Mv Bdry Los
s: tensor(1.4463e+12)
Iteration: 17400
                       Total Loss: tensor(1.0569e+13)
IC Loss: tensor(0.5325)
                                                              NS PDE Loss: tensor(64.1161)
                                                                                              Mv Bdry Los
                               BC Loss: tensor(1.0970e-09)
s: tensor(1.0569e+13)
Iteration: 17600
                       Total Loss: tensor(1.4674e+12)
                                                              NS PDE Loss: tensor(64.1171)
                                                                                              Mv Bdry Los
IC Loss: tensor(0.5325)
                               BC Loss: tensor(1.0970e-09)
s: tensor(1.4674e+12)
Iteration: 17800
                       Total Loss: tensor(1.3520e+12)
                                                              NS PDE Loss: tensor(64.1172)
IC Loss: tensor(0.5326)
                               BC Loss: tensor(1.0970e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3520e+12)
Iteration: 18000
                       Total Loss: tensor(1.3333e+12)
IC Loss: tensor(0.5326)
                                                              NS PDE Loss: tensor(64.1176)
                               BC Loss: tensor(1.0970e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3333e+12)
Iteration: 18200
                       Total Loss: tensor(1,4134e+12)
IC Loss: tensor(0.5326)
                               BC Loss: tensor(1.0969e-09)
                                                              NS PDE Loss: tensor(64.1169)
                                                                                              Mv Bdry Los
s: tensor(1.4134e+12)
Iteration: 18400
                       Total Loss: tensor(1.3270e+12)
                                                              NS PDE Loss: tensor(64.1174)
IC Loss: tensor(0.5326)
                               BC Loss: tensor(1.0969e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3270e+12)
Iteration: 18600
                       Total Loss: tensor(1.3383e+12)
                                                              NS PDE Loss: tensor(64.1173)
IC Loss: tensor(0.5327)
                               BC Loss: tensor(1.0969e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3383e+12)
Iteration: 18800
                       Total Loss: tensor(1.3577e+12)
                                                              NS PDE Loss: tensor(64.1171)
IC Loss: tensor(0.5327)
                               BC Loss: tensor(1.0969e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3577e+12)
Iteration: 19000
                       Total Loss: tensor(1.3974e+12)
                                                              NS PDE Loss: tensor(64.1165)
IC Loss: tensor(0.5327)
                               BC Loss: tensor(1.0969e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3974e+12)
Iteration: 19200
                       Total Loss: tensor(1.4535e+12)
IC Loss: tensor(0.5328)
                               BC Loss: tensor(1.0968e-09)
                                                              NS PDE Loss: tensor(64.1170)
                                                                                              Mv Bdry Los
s: tensor(1.4535e+12)
Iteration: 19400
                       Total Loss: tensor(1.3748e+12)
                                                              NS PDE Loss: tensor(64.1168)
IC Loss: tensor(0.5328)
                               BC Loss: tensor(1.0968e-09)
                                                                                              Mv Bdry Los
s: tensor(1.3748e+12)
```

Iteration: 19600 Total Loss: tensor(1.3310e+12) IC Loss: tensor(0.5329) NS PDE Loss: tensor(64.1162) Mv Bdry Los BC Loss: tensor(1.0968e-09) s: tensor(1.3310e+12) Total Loss: tensor(1.4684e+12) Iteration: 19800 IC Loss: tensor(0.5329) BC Loss: tensor(1.0968e-09) NS PDE Loss: tensor(64.1172) Mv Bdry Los s: tensor(1.4684e+12) Iteration: 20000 Total Loss: tensor(1.4971e+12) NS PDE Loss: tensor(64.1160) My Bdry Los IC Loss: tensor(0.5330) BC Loss: tensor(1.0968e-09) s: tensor(1.4971e+12) Total Time: 32459.35774207115 Pass 1 Time: 10256,922997951508 17944.42311501503 Pass 2 Time: Pass 3 Time: 25028.506683826447 Pass 4 Time: 32459.354799985886

In []: