

```
In [1]: import Pkg
Pkg.activate(@__DIR__)
Pkg.instantiate()
using LinearAlgebra, Plots
import ForwardDiff as FD
using Printf
using JLD2
```

Activating environment at `/home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Project.toml`

Q2 (30 pts): Augmented Lagrangian Quadratic Program Solver

Part (A): QP Solver (10 pts)

Here we are going to use the augmented lagrangian method described [here in a video](https://www.youtube.com/watch?v=0x0JD5uO_ZQ) (https://www.youtube.com/watch?v=0x0JD5uO_ZQ), with [the corresponding pdf here](https://github.com/Optimal-Control-16-745/lecture-notebooks-2022/blob/main/misc/AL_tutorial.pdf) (https://github.com/Optimal-Control-16-745/lecture-notebooks-2022/blob/main/misc/AL_tutorial.pdf) to solve the following problem:

$$\begin{aligned} \min_x \quad & \frac{1}{2}x^T Qx + q^T x \\ \text{s.t.} \quad & Ax - b = 0 \\ & Gx - h \leq 0 \end{aligned}$$

where the cost function is described by $Q \in \mathbb{R}^{n \times n}$, $q \in \mathbb{R}^n$, an equality constraint is described by $A \in \mathbb{R}^{m \times n}$ and $b \in \mathbb{R}^m$, and an inequality constraint is described by $G \in \mathbb{R}^{p \times n}$ and $h \in \mathbb{R}^p$.

By introducing a dual variable $\lambda \in \mathbb{R}^m$ for the equality constraint, and $\mu \in \mathbb{R}^p$ for the inequality constraint, we have the following KKT conditions for optimality:

$$\begin{aligned} Qx + q + A^T \lambda + G^T \mu &= 0 && \text{stationarity} \\ Ax - b &= 0 && \text{primal feasibility} \\ Gx - h &\leq 0 && \text{primal feasibility} \\ \mu &\geq 0 && \text{dual feasibility} \\ \mu \odot (Gx - h) &= 0 && \text{complementarity} \end{aligned}$$

where \odot is element-wise multiplication.

```

In [2]: # TODO: read below
# NOTE: DO NOT USE A WHILE LOOP ANYWHERE
"""
The data for the QP is stored in `qp` the following way:
    @load joinpath(@__DIR__, "qp_data.jld2") qp

which is a NamedTuple, where
    Q, q, A, b, G, h = qp.Q, qp.q, qp.A, qp.b, qp.G, qp.h

contains all of the problem data you will need for the QP.

Your job is to make the following function

    x, λ, μ = solve_qp(qp; verbose = true, max_iters = 100, tol = 1e-8)

You can use (or not use) any of the additional functions:

as long as solve_qp works.
"""
function cost(qp::NamedTuple, x::Vector)::Real
    0.5*x'*qp.Q*x + dot(qp.q,x)
end

function c_eq(qp::NamedTuple, x::Vector)::Vector
    qp.A*x - qp.b
end

function h_ineq(qp::NamedTuple, x::Vector)::Vector
    qp.G*x - qp.h
end

function lagrangian(qp::NamedTuple, x::Vector, λ::Vector, μ::Vector)::Real
    cost(qp,x) + λ'*c_eq(qp,x) + μ'*h_ineq(qp,x)
end

function mask_matrix(qp::NamedTuple, x::Vector, μ::Vector, ρ::Real)::Matrix
    M = h_ineq(qp,x)
    I_ρ = 1.0*I(length(M))
    for ii = 1:length(M)
        if M[ii]<0 && μ[ii]==0
            I_ρ[ii,ii]=0
        else
            I_ρ[ii,ii]=ρ
        end
    end
    return I_ρ
end

function augmented_lagrangian(qp::NamedTuple, x::Vector, λ::Vector, μ::Vector,
    ρ::Real)::Real
    lagrangian(qp,x,λ,μ) + ρ/2*c_eq(qp,x)'*c_eq(qp,x) + 1/2*h_ineq(qp,x)'*mask_
    _matrix(qp,x,μ,ρ)*h_ineq(qp,x)
end

function logging(qp::NamedTuple, main_iter::Int, AL_gradient::Vector, x::Vecto
    r, λ::Vector, μ::Vector, ρ::Real)

```

```

# TODO: stationarity norm
stationarity_norm = norm(FD.gradient(_x -> lagrangian(qp,_x,λ,μ),x))
@printf("%3d % 7.2e % 7.2e % 7.2e % 7.2e % 7.2e %5.0e\n",
        main_iter, stationarity_norm, norm(AL_gradient), maximum(h_ineq(qp,
x)),
        norm(c_eq(qp,x),Inf), abs(dot(μ,h_ineq(qp,x))), ρ)
end

function solve_qp(qp; verbose = true, max_iters = 100, tol = 1e-8)
    x = zeros(length(qp.q))
    λ = zeros(length(qp.b))
    μ = zeros(length(qp.h))
    ρ = 1
    φ = 2
    if verbose
        @printf "iter    |∇L_x|        |∇AL_x|        max(h)        |c|        compl
ρ\n"
        @printf "-----\n"
    end

    kkt(_x) = FD.gradient(__x -> augmented_lagrangian(qp,__x,λ,μ,ρ), _x)

    # TODO:
    for main_iter = 1:max_iters
        if verbose
            logging(qp, main_iter, kkt(x), x, λ, μ, ρ)
        end

        # NOTE: when you do your dual update for μ, you should compute
        # your element-wise maximum with `max.(a,b)`, not `max(a,b)`
        # TODO: convergence criteria based on tol
        if norm(kkt(x)) < tol
            return x, λ, μ
        end

        Δx = -(FD.jacobian(_x -> kkt(_x),x)) \ kkt(x)
        x = x + Δx
        λ += ρ*c_eq(qp,x)
        μ = max.(0,μ+ρ*h_ineq(qp,x))
        ρ *= φ
    end

    error("qp solver did not converge")
end

let
    # example solving qp
    @load joinpath(@__DIR__, "qp_data.jld2") qp
    x, λ, μ = solve_qp(qp; verbose = true, tol = 1e-8)
end

```

iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p
1	2.98e+01	5.60e+01	4.38e+00	6.49e+00	0.00e+00	1e+00
2	4.83e+00	1.83e+01	1.55e+00	1.31e+00	2.64e+00	2e+00
3	7.00e-01	8.70e+00	4.97e-02	6.01e-01	3.12e-01	4e+00
4	2.39e-01	2.24e+00	3.78e-02	8.34e-02	4.04e-02	8e+00
5	1.76e+00	5.20e+00	7.09e-02	5.52e-03	3.69e-02	2e+01
6	4.51e-14	3.32e+00	1.56e-03	2.71e-03	5.22e-06	3e+01
7	4.39e-14	9.80e-02	-2.16e-04	3.36e-04	2.46e-04	6e+01
8	2.17e-13	4.77e-03	-5.77e-06	1.25e-05	6.39e-06	1e+02
9	3.29e-13	1.42e-04	-8.10e-08	1.94e-07	8.92e-08	3e+02
10	5.50e-13	2.18e-06	-6.05e-10	1.48e-09	6.65e-10	5e+02
11	2.49e-12	1.70e-08	-2.31e-12	5.70e-12	2.55e-12	1e+03
12	2.71e-12	6.09e-11	-4.44e-15	1.11e-14	5.07e-15	2e+03

```
([-0.326230805713393, 0.24943797997175676, -0.43226766440522546, -1.417224697
1242008, -1.3994527400875794, 0.6099582408523462, -0.07312202122168004, 1.303
1477522000228, 0.5389034791065959, -0.7225813651685241], [-0.1283519512348898
5, -2.8376241672114153, -0.8320804499660779], [0.03635294263949618, 0.0, 0.0,
1.0594444951137387, 0.0])
```

QP Solver test

```
In [3]: # 10 points
using Test
@testset "qp solver" begin
    @load joinpath(@__DIR__, "qp_data.jld2") qp
    x, λ, μ = solve_qp(qp; verbose = true, max_iters = 100, tol = 1e-6)

    @load joinpath(@__DIR__, "qp_solutions.jld2") qp_solutions
    @test norm(x - qp_solutions.x, Inf) < 1e-3;
    @test norm(λ - qp_solutions.λ, Inf) < 1e-3;
    @test norm(μ - qp_solutions.μ, Inf) < 1e-3;
end
```

iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p
1	2.98e+01	5.60e+01	4.38e+00	6.49e+00	0.00e+00	1e+00
2	4.83e+00	1.83e+01	1.55e+00	1.31e+00	2.64e+00	2e+00
3	7.00e-01	8.70e+00	4.97e-02	6.01e-01	3.12e-01	4e+00
4	2.39e-01	2.24e+00	3.78e-02	8.34e-02	4.04e-02	8e+00
5	1.76e+00	5.20e+00	7.09e-02	5.52e-03	3.69e-02	2e+01
6	4.51e-14	3.32e+00	1.56e-03	2.71e-03	5.22e-06	3e+01
7	4.39e-14	9.80e-02	-2.16e-04	3.36e-04	2.46e-04	6e+01
8	2.17e-13	4.77e-03	-5.77e-06	1.25e-05	6.39e-06	1e+02
9	3.29e-13	1.42e-04	-8.10e-08	1.94e-07	8.92e-08	3e+02
10	5.50e-13	2.18e-06	-6.05e-10	1.48e-09	6.65e-10	5e+02
11	2.49e-12	1.70e-08	-2.31e-12	5.70e-12	2.55e-12	1e+03

```
Test Summary: | Pass Total
qp solver      |    3      3
```

```
Test.DefaultTestSet("qp solver", Any[], 3, false, false)
```

Simulating a Falling Brick with QPs

In this question we'll be simulating a brick falling and sliding on ice in 2D. You will show that this problem can be formulated as a QP, which you will solve using an Augmented Lagrangian method.

The Dynamics

The dynamics of the brick can be written in continuous time as

$$M\dot{v} + Mg = J^T \mu$$

$$\text{where } M = mI_{2 \times 2}, \quad g = \begin{bmatrix} 0 \\ 9.81 \end{bmatrix}, \quad J = \begin{bmatrix} 0 & 1 \end{bmatrix}$$

and $\mu \in \mathbb{R}$ is the normal force. The velocity $v \in \mathbb{R}^2$ and position $q \in \mathbb{R}^2$ are composed of the horizontal and vertical components.

We can discretize the dynamics with backward Euler: $\begin{bmatrix} v_{k+1} \\ q_{k+1} \end{bmatrix} = \begin{bmatrix} v_k \\ q_k \end{bmatrix} + \Delta t \cdot \begin{bmatrix} \frac{1}{m} J^T \mu_{k+1} - g \\ v_{k+1} \end{bmatrix}$

- $\Delta t \cdot$

$$\begin{bmatrix} \frac{1}{m} J^T \mu_{k+1} - g \\ v_{k+1} \end{bmatrix}$$

\$\$

We also have the following contact constraints:

$$\begin{aligned} Jq_{k+1} &\geq 0 && \text{(don't fall through the ice)} \\ \mu_{k+1} &\geq 0 && \text{(normal forces only push, not pull)} \\ \mu_{k+1} Jq_{k+1} &= 0 && \text{(no force at a distance)} \end{aligned}$$

Part (B): QP formulation for Falling Brick (5 pts)

Show that these discrete-time dynamics are equivalent to the following QP by writing down the KKT conditions.

$$\begin{aligned} \text{minimize}_{v_{k+1}} \quad & \frac{1}{2} v_{k+1}^T M v_{k+1} + [M(\Delta t \cdot g - v_k)]^T v_{k+1} \\ \text{subject to} \quad & -J(q_k + \Delta t \cdot v_{k+1}) \leq 0 \end{aligned}$$

TASK: Write down the KKT conditions for the optimization problem above, and show that it's equivalent to the dynamics problem stated previously. Use LaTeX markdown.

PUT ANSWER HERE:

KKT:

$$\begin{aligned}
 & M v_{k+1} + M(\Delta t g - v_k) - \Delta t J^T \mu_{k+1} = 0 \\
 & M v_{k+1} - M v_k = \Delta t [J^T \mu_{k+1} - M g] \\
 & v_{k+1} = v_k + \Delta t \left[\frac{1}{m} J^T \mu_{k+1} - g \right] \\
 & q_{k+1} = q_k + \Delta t v_{k+1} \\
 & -J(q_k + \Delta t v_{k+1}) \leq 0 \\
 & J q_{k+1} \geq 0 \\
 & \mu_{k+1} \geq 0 \\
 & \mu_{k+1} \odot -J(q_k + \Delta t v_{k+1}) = 0 \\
 & \mu_{k+1} J q_{k+1} = 0
 \end{aligned}$$

Part (C): Brick Simulation (5 pts)

```

In [4]: function brick_simulation_qp(q, v; mass = 1.0, Δt = 0.01)

    # TODO: fill in the QP problem data for a simulation step
    # fill in Q, q, G, h, but leave A, b the same
    # this is because there are no equality constraints in this qp

    g = [0, 9.81]
    J = [0 1]

    qp = (
        Q = Matrix{Float64}(mass * I(2)),
        q = Matrix{Float64}(mass * I(2)) * (Δt * g - v),
        A = zeros(0, 2), # don't edit this
        b = zeros(0),    # don't edit this
        G = -Δt * J,
        h = J * q
    )

    return qp
end

```

brick_simulation_qp (generic function with 1 method)

In [5]: @testset "brick qp" begin

```
q = [1,3.0]
v = [2,-3.0]

qp = brick_simulation_qp(q,v)
@show typeof(qp.Q)
# check all the types to make sure they're right
qp.Q::Matrix{Float64}
qp.q::Vector{Float64}
qp.A::Matrix{Float64}
qp.b::Vector{Float64}
qp.G::Matrix{Float64}
qp.h::Vector{Float64}

@test size(qp.Q) == (2,2)
@test size(qp.q) == (2,)
@test size(qp.A) == (0,2)
@test size(qp.b) == (0,)
@test size(qp.G) == (1,2)
@test size(qp.h) == (1,)

@test abs(tr(qp.Q) - 2) < 1e-10
@test norm(qp.q - [-2.0, 3.0981]) < 1e-10
@test norm(qp.G - [0 -.01]) < 1e-10
@test abs(qp.h[1] -3) < 1e-10
```

end

typeof(qp.Q) = Matrix{Float64}

Test Summary: | Pass Total

brick qp | 10 10

Test.DefaultTestSet("brick qp", Any[], 10, false, false)

```

In [6]: include(joinpath(@__DIR__, "animate_brick.jl"))
let

    dt = 0.01
    T = 3.0

    t_vec = 0:dt:T
    N = length(t_vec)

    qs = [zeros(2) for i = 1:N]
    vs = [zeros(2) for i = 1:N]

    qs[1] = [0, 1.0]
    vs[1] = [1, 4.5]

    # TODO: simulate the brick by forming and solving a qp
    # at each timestep. Your QP should solve for vs[k+1], and
    # you should use this to update qs[k+1]
    for ii = 2:N
        qp = brick_simulation_qp(qs[ii-1], vs[ii-1]; Δt=dt)
        vs[ii], λ, μ = solve_qp(qp; verbose = true, max_iters = 100, tol = 1e-
6)
        qs[ii] = qs[ii-1] + dt * vs[ii]
    end

    xs = [q[1] for q in qs]
    ys = [q[2] for q in qs]

    @show @test abs(maximum(ys) - 2) < 1e-1
    @show @test minimum(ys) > -1e-2
    @show @test abs(xs[end] - 3) < 1e-2

    xdot = diff(xs)/dt
    @show @test maximum(xdot) < 1.0001
    @show @test minimum(xdot) > 0.9999
    @show @test ys[110] > 1e-2
    @show @test abs(ys[111]) < 1e-2
    @show @test abs(ys[112]) < 1e-2

    display(plot(xs, ys, ylabel = "y (m)", xlabel = "x (m)"))

    animate_brick(qs)
end

```


iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.51e+00	4.51e+00	-1.00e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.04e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.42e+00	4.42e+00	-1.04e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.09e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.32e+00	4.32e+00	-1.09e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.13e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.23e+00	4.23e+00	-1.13e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.17e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.13e+00	4.13e+00	-1.17e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.21e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.04e+00	4.04e+00	-1.21e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.25e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.94e+00	3.94e+00	-1.25e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.29e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.85e+00	3.85e+00	-1.29e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.32e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.75e+00	3.75e+00	-1.32e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.36e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.66e+00	3.66e+00	-1.36e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.40e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.56e+00	3.56e+00	-1.40e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.43e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.47e+00	3.47e+00	-1.43e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.46e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.38e+00	3.38e+00	-1.46e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.50e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	3.28e+00	3.28e+00	-1.50e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.53e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

iter	1	3.19e+00	3.19e+00	-1.53e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.56e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	3.10e+00	3.10e+00	-1.56e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.59e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	3.00e+00	3.00e+00	-1.59e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.61e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.91e+00	2.91e+00	-1.61e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.64e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.82e+00	2.82e+00	-1.64e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.67e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.73e+00	2.73e+00	-1.67e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.69e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.64e+00	2.64e+00	-1.69e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.72e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.55e+00	2.55e+00	-1.72e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.74e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.46e+00	2.46e+00	-1.74e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.76e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.37e+00	2.37e+00	-1.76e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.79e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.28e+00	2.28e+00	-1.79e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.81e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.19e+00	2.19e+00	-1.81e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.83e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.10e+00	2.10e+00	-1.83e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.84e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
iter	1	2.02e+00	2.02e+00	-1.84e+00	0.00e+00	0.00e+00	1e+00
	2	0.00e+00	0.00e+00	-1.86e+00	0.00e+00	0.00e+00	2e+00
		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.93e+00	1.93e+00	-1.86e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.88e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.85e+00	1.85e+00	-1.88e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.89e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.77e+00	1.77e+00	-1.89e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.91e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.69e+00	1.69e+00	-1.91e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.92e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.61e+00	1.61e+00	-1.92e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.93e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.54e+00	1.54e+00	-1.93e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.95e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.46e+00	1.46e+00	-1.95e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.96e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.39e+00	1.39e+00	-1.96e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.97e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.33e+00	1.33e+00	-1.97e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.98e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.26e+00	1.26e+00	-1.98e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.98e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.21e+00	1.21e+00	-1.98e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.99e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.15e+00	1.15e+00	-1.99e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.00e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.11e+00	1.11e+00	-2.00e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.00e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.07e+00	1.07e+00	-2.00e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.00e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	1.04e+00	1.04e+00	-2.00e+00	0.00e+00	0.00e+00	1e+00

2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.02e+00	1.02e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.01e+00	1.01e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.02e+00	1.02e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.01e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.05e+00	1.05e+00	-2.01e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.00e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.08e+00	1.08e+00	-2.00e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.00e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.12e+00	1.12e+00	-2.00e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.99e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.17e+00	1.17e+00	-1.99e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.99e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.22e+00	1.22e+00	-1.99e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.98e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.28e+00	1.28e+00	-1.98e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.97e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.34e+00	1.34e+00	-1.97e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.96e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.41e+00	1.41e+00	-1.96e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.95e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	$ c $	compl	ρ

1	1.48e+00	1.48e+00	-1.95e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.94e+00	0.00e+00	0.00e+00	2e+00

iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.55e+00	1.55e+00	-1.94e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.93e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.63e+00	1.63e+00	-1.93e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.92e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.71e+00	1.71e+00	-1.92e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.90e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.79e+00	1.79e+00	-1.90e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.89e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.87e+00	1.87e+00	-1.89e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.87e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	1.96e+00	1.96e+00	-1.87e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.86e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.04e+00	2.04e+00	-1.86e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.84e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.13e+00	2.13e+00	-1.84e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.82e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.21e+00	2.21e+00	-1.82e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.80e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.30e+00	2.30e+00	-1.80e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.78e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.39e+00	2.39e+00	-1.78e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.76e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.48e+00	2.48e+00	-1.76e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.74e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.57e+00	2.57e+00	-1.74e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.71e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.66e+00	2.66e+00	-1.71e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.69e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	2.75e+00	2.75e+00	-1.69e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.66e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.84e+00	2.84e+00	-1.66e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.64e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	2.94e+00	2.94e+00	-1.64e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.61e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.03e+00	3.03e+00	-1.61e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.58e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.12e+00	3.12e+00	-1.58e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.55e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.21e+00	3.21e+00	-1.55e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.52e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.31e+00	3.31e+00	-1.52e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.49e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.40e+00	3.40e+00	-1.49e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.46e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.49e+00	3.49e+00	-1.46e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.42e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.59e+00	3.59e+00	-1.42e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.39e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.68e+00	3.68e+00	-1.39e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.35e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.78e+00	3.78e+00	-1.35e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.32e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.87e+00	3.87e+00	-1.32e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.28e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
1	3.97e+00	3.97e+00	-1.28e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.24e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	4.06e+00	4.06e+00	-1.24e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.20e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.16e+00	4.16e+00	-1.20e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.16e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.25e+00	4.25e+00	-1.16e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.12e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.35e+00	4.35e+00	-1.12e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.08e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.44e+00	4.44e+00	-1.08e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.03e+00	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.54e+00	4.54e+00	-1.03e+00	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-9.89e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.63e+00	4.63e+00	-9.89e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-9.43e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.73e+00	4.73e+00	-9.43e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-8.97e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.83e+00	4.83e+00	-8.97e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-8.50e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	4.92e+00	4.92e+00	-8.50e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-8.02e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	5.02e+00	5.02e+00	-8.02e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-7.52e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	5.11e+00	5.11e+00	-7.52e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-7.02e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	5.21e+00	5.21e+00	-7.02e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-6.51e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	5.31e+00	5.31e+00	-6.51e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-5.99e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	c	compl	ρ

1	5.40e+00	5.40e+00	-5.99e-01	0.00e+00	0.00e+00	1e+00

2	0.00e+00	0.00e+00	-5.46e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.50e+00	5.50e+00	-5.46e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-4.92e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.60e+00	5.60e+00	-4.92e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-4.37e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.69e+00	5.69e+00	-4.37e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-3.81e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.79e+00	5.79e+00	-3.81e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-3.24e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.89e+00	5.89e+00	-3.24e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.66e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	5.98e+00	5.98e+00	-2.66e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.07e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	6.08e+00	6.08e+00	-2.07e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-1.47e-01	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	6.18e+00	6.18e+00	-1.47e-01	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-8.58e-02	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	6.27e+00	6.27e+00	-8.58e-02	0.00e+00	0.00e+00	1e+00
2	0.00e+00	0.00e+00	-2.39e-02	0.00e+00	0.00e+00	2e+00
iter	$ \nabla L_x $	$ \nabla A L_x $	max(h)	$ c $	compl	ρ

1	6.37e+00	6.37e+00	-2.39e-02	0.00e+00	0.00e+00	1e+00
2	3.90e-04	1.17e-03	3.90e-02	0.00e+00	1.52e-03	2e+00
3	2.56e-17	1.56e-03	3.90e-02	0.00e+00	4.56e-03	4e+00
4	3.31e-16	3.12e-03	3.90e-02	0.00e+00	1.06e-02	8e+00
5	3.55e-16	6.23e-03	3.89e-02	0.00e+00	2.28e-02	2e+01
6	2.13e-16	1.24e-02	3.89e-02	0.00e+00	4.69e-02	3e+01
7	1.08e-16	2.48e-02	3.88e-02	0.00e+00	9.48e-02	6e+01
8	2.15e-16	4.93e-02	3.85e-02	0.00e+00	1.89e-01	1e+02
9	3.61e-16	9.73e-02	3.80e-02	0.00e+00	3.72e-01	3e+02
10	2.22e-16	1.90e-01	3.71e-02	0.00e+00	7.15e-01	5e+02
11	2.22e-16	3.61e-01	3.53e-02	0.00e+00	1.32e+00	1e+03
12	4.44e-16	6.55e-01	3.20e-02	0.00e+00	2.24e+00	2e+03
13	4.44e-16	1.09e+00	2.66e-02	0.00e+00	3.31e+00	4e+03
14	4.44e-16	1.54e+00	1.88e-02	0.00e+00	3.80e+00	8e+03
15	8.88e-16	1.70e+00	1.04e-02	0.00e+00	2.97e+00	2e+04
16	8.88e-16	1.29e+00	3.93e-03	0.00e+00	1.38e+00	3e+04
17	8.88e-16	6.01e-01	9.18e-04	0.00e+00	3.50e-01	7e+04
18	0.00e+00	1.59e-01	1.22e-04	0.00e+00	4.72e-02	1e+05

19	4.44e-16	2.26e-02	8.61e-06	0.00e+00	3.36e-03	3e+05
20	8.88e-16	1.66e-03	3.16e-07	0.00e+00	1.23e-04	5e+05
21	6.66e-15	6.21e-05	5.92e-09	0.00e+00	2.31e-06	1e+06
22	1.78e-15	1.17e-06	5.60e-11	0.00e+00	2.18e-08	2e+06
23	4.71e-14	1.11e-08	2.66e-13	0.00e+00	1.04e-10	4e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	2.68e+00	2.68e+00	2.66e-13	0.00e+00	0.00e+00	1e+00
2	1.00e-16	4.98e-04	2.49e-02	0.00e+00	6.19e-04	2e+00
3	3.24e-17	9.95e-04	2.49e-02	0.00e+00	1.86e-03	4e+00
4	1.01e-16	1.99e-03	2.49e-02	0.00e+00	4.33e-03	8e+00
5	9.41e-17	3.98e-03	2.48e-02	0.00e+00	9.27e-03	2e+01
6	1.15e-16	7.94e-03	2.48e-02	0.00e+00	1.91e-02	3e+01
7	1.84e-16	1.58e-02	2.47e-02	0.00e+00	3.86e-02	6e+01
8	1.60e-16	3.15e-02	2.46e-02	0.00e+00	7.70e-02	1e+02
9	1.25e-16	6.21e-02	2.43e-02	0.00e+00	1.51e-01	3e+02
10	2.22e-16	1.21e-01	2.37e-02	0.00e+00	2.91e-01	5e+02
11	2.22e-16	2.30e-01	2.25e-02	0.00e+00	5.36e-01	1e+03
12	5.55e-17	4.18e-01	2.04e-02	0.00e+00	9.13e-01	2e+03
13	1.11e-16	6.94e-01	1.69e-02	0.00e+00	1.35e+00	4e+03
14	2.22e-16	9.85e-01	1.20e-02	0.00e+00	1.55e+00	8e+03
15	2.22e-16	1.08e+00	6.61e-03	0.00e+00	1.21e+00	2e+04
16	0.00e+00	8.21e-01	2.50e-03	0.00e+00	5.61e-01	3e+04
17	0.00e+00	3.84e-01	5.86e-04	0.00e+00	1.42e-01	7e+04
18	0.00e+00	1.02e-01	7.75e-05	0.00e+00	1.92e-02	1e+05
19	0.00e+00	1.44e-02	5.50e-06	0.00e+00	1.37e-03	3e+05
20	0.00e+00	1.06e-03	2.02e-07	0.00e+00	5.02e-05	5e+05
21	0.00e+00	3.96e-05	3.78e-09	0.00e+00	9.41e-07	1e+06
22	0.00e+00	7.49e-07	3.57e-11	0.00e+00	8.88e-09	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	3.57e-11	0.00e+00	0.00e+00	1e+00
2	1.23e-17	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.98e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	6.57e-18	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	5.31e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.13e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	1.95e-18	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	2.17e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	6.51e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	3.47e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	0.00e+00	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	1.39e-17	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	0.00e+00	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	1.39e-17	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	1.39e-17	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	0.00e+00	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	7.88e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.75e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	1.08e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	2.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	2.49e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	1.08e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	4.55e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	8.67e-19	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	5.20e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	3.47e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	0.00e+00	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	0.00e+00	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	0.00e+00	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	1.39e-17	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	0.00e+00	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.05e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.13e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.76e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.45e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	1.08e-18	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.85e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	3.04e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	6.94e-18	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	6.94e-18	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	1.39e-17	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	0.00e+00	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	0.00e+00	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	1.39e-17	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	0.00e+00	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	$ c $	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	$ c $	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{A}_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{A}_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla \mathcal{L}_x $	$\max(h)$	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla \mathcal{L}_x $	$\max(h)$	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_{L_x} $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_{L_x} $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04

18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00

3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla \mathcal{L}_x $	max(h)	c	compl	ρ
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03

12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla A_L x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05

21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01

6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03

15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	p

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla AL_x $	max(h)	$ c $	compl	p

	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
	9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
	10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
	11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
	12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
	13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
	14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
	15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
	16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
	17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
	18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
	19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
	20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
	21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
	22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter		$ \nabla L_x $	$ \nabla L_x $	max(h)	$ c $	compl	ρ
	1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
	2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
	3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
	4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
	5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
	6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
	7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
	8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02

9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

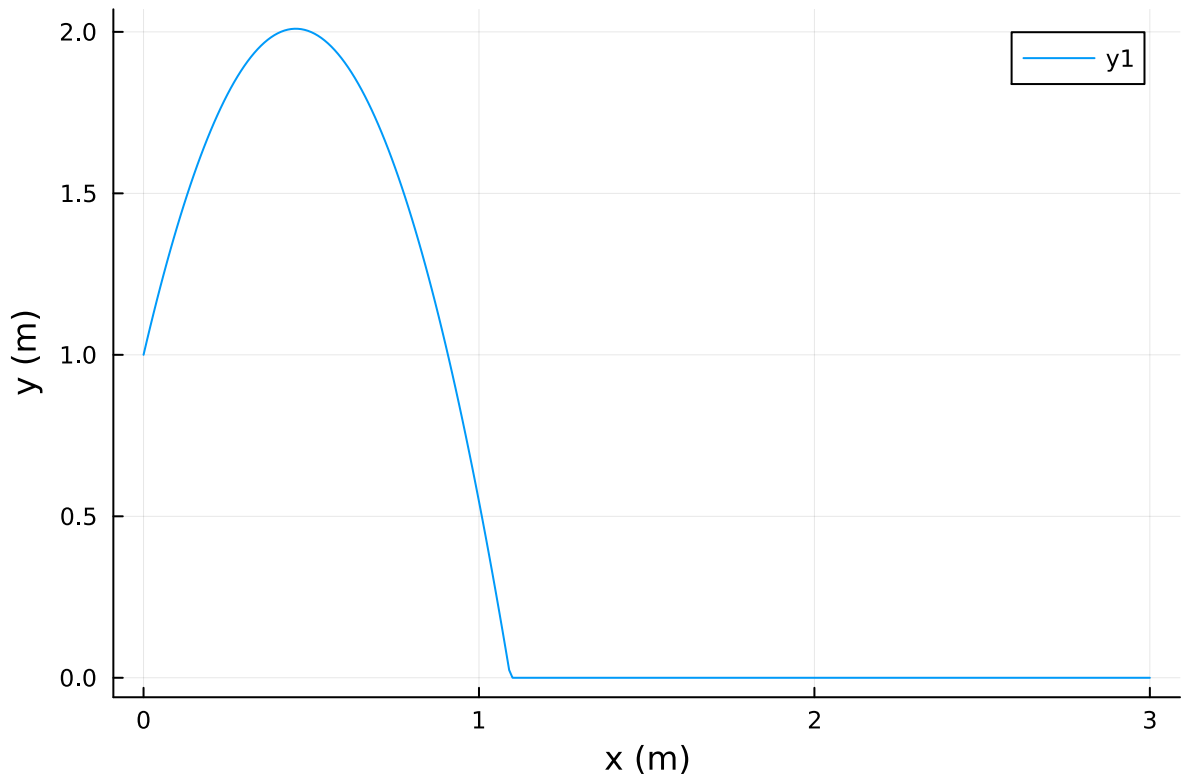
1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04
18	0.00e+00	4.01e-03	3.06e-06	0.00e+00	2.99e-05	1e+05
19	1.39e-17	5.68e-04	2.17e-07	0.00e+00	2.12e-06	3e+05
20	0.00e+00	4.17e-05	7.96e-09	0.00e+00	7.81e-08	5e+05
21	0.00e+00	1.56e-06	1.49e-10	0.00e+00	1.46e-09	1e+06
22	1.39e-17	2.95e-08	1.41e-12	0.00e+00	1.38e-11	2e+06
iter	$ \nabla L_x $	$ \nabla L_x $	max(h)	c	compl	ρ

1	1.00e+00	1.00e+00	1.41e-12	0.00e+00	0.00e+00	1e+00
2	6.31e-18	1.96e-05	9.81e-04	0.00e+00	9.62e-07	2e+00
3	5.06e-18	3.92e-05	9.81e-04	0.00e+00	2.89e-06	4e+00
4	8.40e-19	7.84e-05	9.80e-04	0.00e+00	6.73e-06	8e+00
5	1.71e-18	1.57e-04	9.80e-04	0.00e+00	1.44e-05	2e+01
6	6.51e-18	3.13e-04	9.78e-04	0.00e+00	2.97e-05	3e+01
7	9.76e-19	6.24e-04	9.75e-04	0.00e+00	6.00e-05	6e+01
8	5.42e-18	1.24e-03	9.69e-04	0.00e+00	1.20e-04	1e+02
9	2.60e-18	2.45e-03	9.56e-04	0.00e+00	2.35e-04	3e+02
10	6.94e-18	4.77e-03	9.33e-04	0.00e+00	4.52e-04	5e+02
11	6.94e-18	9.08e-03	8.87e-04	0.00e+00	8.33e-04	1e+03
12	3.47e-18	1.65e-02	8.05e-04	0.00e+00	1.42e-03	2e+03
13	0.00e+00	2.74e-02	6.68e-04	0.00e+00	2.09e-03	4e+03
14	0.00e+00	3.88e-02	4.74e-04	0.00e+00	2.40e-03	8e+03
15	0.00e+00	4.27e-02	2.60e-04	0.00e+00	1.88e-03	2e+04
16	1.39e-17	3.23e-02	9.87e-05	0.00e+00	8.71e-04	3e+04
17	1.39e-17	1.51e-02	2.31e-05	0.00e+00	2.21e-04	7e+04


```

18  0.00e+00  4.01e-03  3.06e-06  0.00e+00  2.99e-05  1e+05
19  1.39e-17  5.68e-04  2.17e-07  0.00e+00  2.12e-06  3e+05
20  0.00e+00  4.17e-05  7.96e-09  0.00e+00  7.81e-08  5e+05
21  0.00e+00  1.56e-06  1.49e-10  0.00e+00  1.46e-09  1e+06
22  1.39e-17  2.95e-08  1.41e-12  0.00e+00  1.38e-11  2e+06
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:28 =# @test
(abs(maximum(ys) - 2) < 0.1) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:29 =# @test
(minimum(ys) > -0.01) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:30 =# @test
(abs(xs[end] - 3) < 0.01) = Test Passed

```



```

# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:33 =# @test
(maximum(xdot) < 1.0001) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:34 =# @test
(minimum(xdot) > 0.9999) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:35 =# @test
(ys[110] > 0.01) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:36 =# @test
(abs(ys[111]) < 0.01) = Test Passed
# = /home/sman/Work/CMU/Courses/OCRL/OCRL2024/HW/HW1_S24/Q3.ipynb:37 =# @test
(abs(ys[112]) < 0.01) = Test Passed

```

```

└ Info: MeshCat server started. You can open the visualizer by visiting the following URL in your browser:
  | http://127.0.0.1:8703
  └ @ MeshCat /root/.julia/packages/MeshCat/vWPbP/src/visualizer.jl:73

```

Part D (5 pts): Solve a QP

Use your QP solver to solve the following optimization problem:

$$\begin{aligned}
 \min_{y \in \mathbb{R}^2, a \in \mathbb{R}, b \in \mathbb{R}} \quad & \frac{1}{2} y^T \begin{bmatrix} 1 & .3 \\ .3 & 1 \end{bmatrix} y + a^2 + 2b^2 + [-2 \quad 3.4] y + 2a + 4b \\
 \text{st} \quad & a + b = 1 \\
 & [-1 \quad 2.3] y + a - 2b = 3 \\
 & -0.5 \leq y \leq 1 \\
 & -1 \leq a \leq 1 \\
 & -1 \leq b \leq 1
 \end{aligned}$$

You should be able to put this into our standard QP form that we used above, and solve.

```

In [7]: function rand_qp()

    qp = (
        Q = [ 1 0.3 0 0;
              0.3 1 0 0;
              0 0 2 0;
              0 0 0 4],
        q = [-2, 3.4, 2, 4],
        A = [ 0 0 1 1;
              -1 2.3 1 -2],
        b = [1, 3],
        G = [ 1 0 0 0;
              0 1 0 0;
              -1 0 0 0;
              0 -1 0 0;
              0 0 1 0;
              0 0 -1 0;
              0 0 0 1;
              0 0 0 -1],
        h = [1, 1, 0.5, 0.5, 1, 1, 1, 1]
    )

    return qp
end

```

rand_qp (generic function with 1 method)

In [8]: @testset "part D" begin

```
x, λ, μ = solve_qp(rand_qp(); verbose = true, max_iters = 100, tol = 1e-6)
y = x[1:2]
a = x[3]
b = x[4]
```

```
@test norm(y - [-0.080823; 0.834424]) < 1e-3
```

```
@test abs(a - 1) < 1e-3
```

```
@test abs(b) < 1e-3
```

end

iter	$ \nabla L_x $	$ \nabla \lambda_x $	max(h)	$ c $	compl	ρ
1	5.96e+00	9.91e+00	-5.00e-01	3.00e+00	0.00e+00	1e+00
2	2.77e-01	9.55e+00	2.77e-01	1.71e+00	7.69e-02	2e+00
3	6.01e-01	2.37e+00	3.01e-01	6.65e-01	1.74e-01	4e+00
4	7.19e-01	4.35e+00	3.12e-01	4.56e-01	5.78e-01	8e+00
5	3.64e-15	2.09e+00	1.94e-01	1.50e-01	6.61e-01	2e+01
6	4.97e-15	1.75e+00	7.82e-02	5.97e-02	3.64e-01	3e+01
7	3.80e-14	8.74e-01	1.96e-02	1.49e-02	1.03e-01	6e+01
8	2.74e-14	2.50e-01	2.80e-03	2.13e-03	1.53e-02	1e+02
9	4.66e-14	3.85e-02	2.15e-04	1.64e-04	1.18e-03	3e+02
10	1.05e-13	3.08e-03	8.62e-06	6.57e-06	4.74e-05	5e+02
11	3.44e-13	1.26e-04	1.76e-07	1.34e-07	9.67e-07	1e+03
12	1.03e-12	2.60e-06	1.82e-09	1.38e-09	9.98e-09	2e+03
13	2.27e-12	2.69e-08	9.42e-12	7.18e-12	5.18e-11	4e+03

```
Test Summary: | Pass Total
part D       |    3      3
```

```
Test.DefaultTestSet("part D", Any[], 3, false, false)
```

Part E (5 pts): One sentence short answer

1. For our Augmented Lagrangian solver, if our initial guess for x is feasible (meaning it satisfies the constraints), will it stay feasible through each iteration?

No, the augmented lagrangian penalizes violation rather than increase cost infinitely near violation

1. Does the Augmented Lagrangian function for this problem always have continuous first derivatives?

Yes, the $\max(0, c(x))^2$ term of the AL has continuous derivative, since the Lagrangian also has a continuous derivative, then AL overall is continuous

1. Is the QP in part D always convex?

Yes, the hessian is PD

```
In [10]: # check if part D QP is always convex:  
         eigvals(rand_qp().Q)
```

```
4-element Vector{Float64}:  
 0.7  
 1.3  
 2.0  
 4.0
```