

# Read Me: AS Simulator for GIT

Ian McFarlane

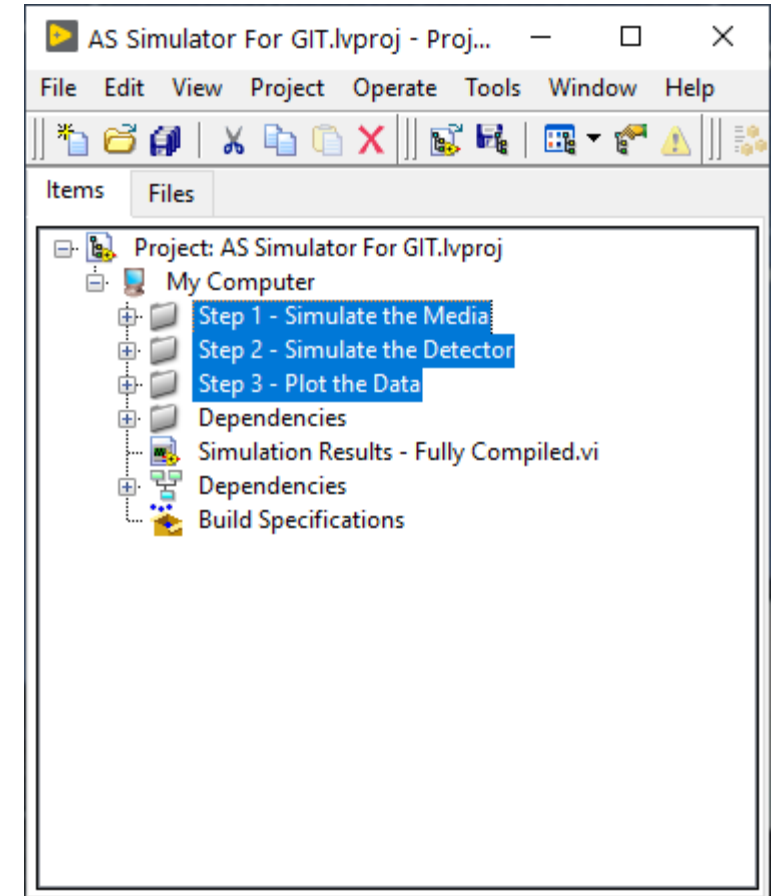
2020-09-17

UC Berkeley

Landry Lab

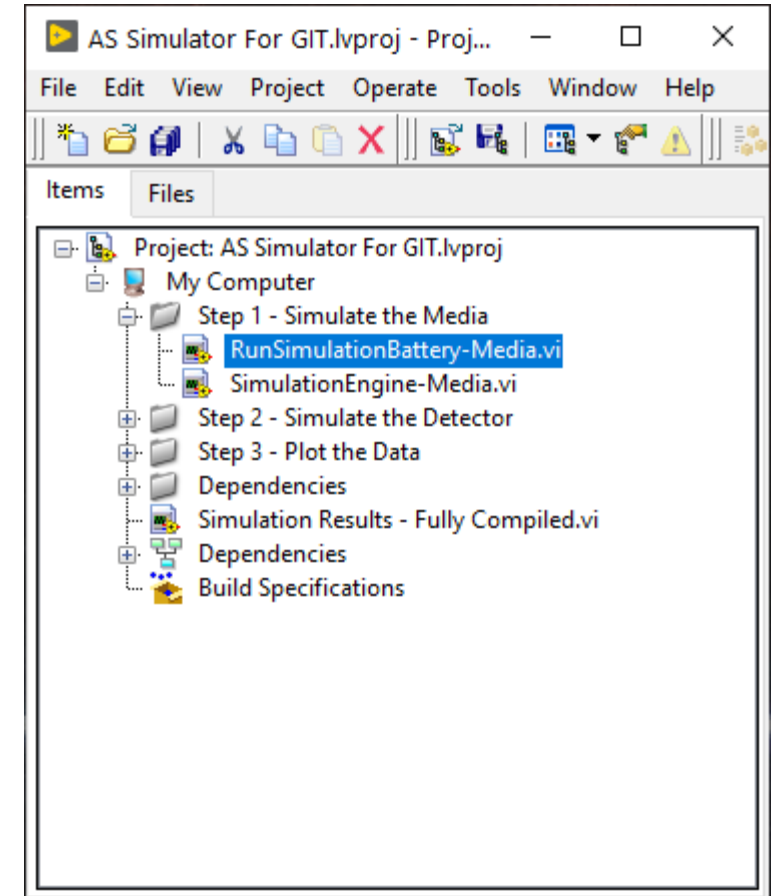
# The Project

- Start by opening the project file
  - “AS Simulator for GIT.lvproj”
- There are three steps you will need to perform to use this system
  1. Simulate the Media
  2. Simulate the Detector
  3. Plot the Data



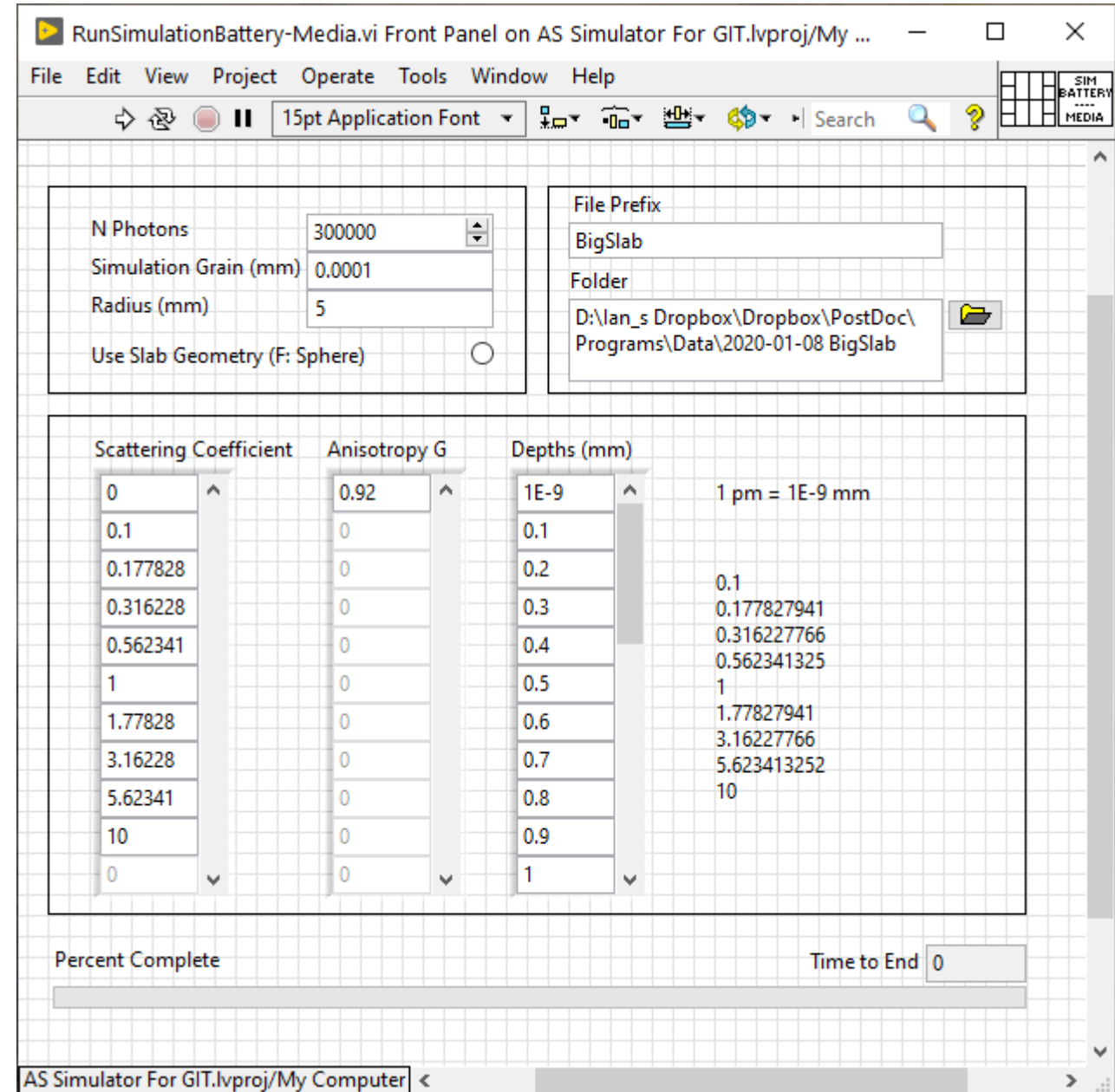
# Step 1: Simulate the Media

- In this virtual folder are two Vis
  - The thing to run: “RunSimulationBattery-Media.vi”
  - The primary subVI: “SimulationEngine-Media.vi”



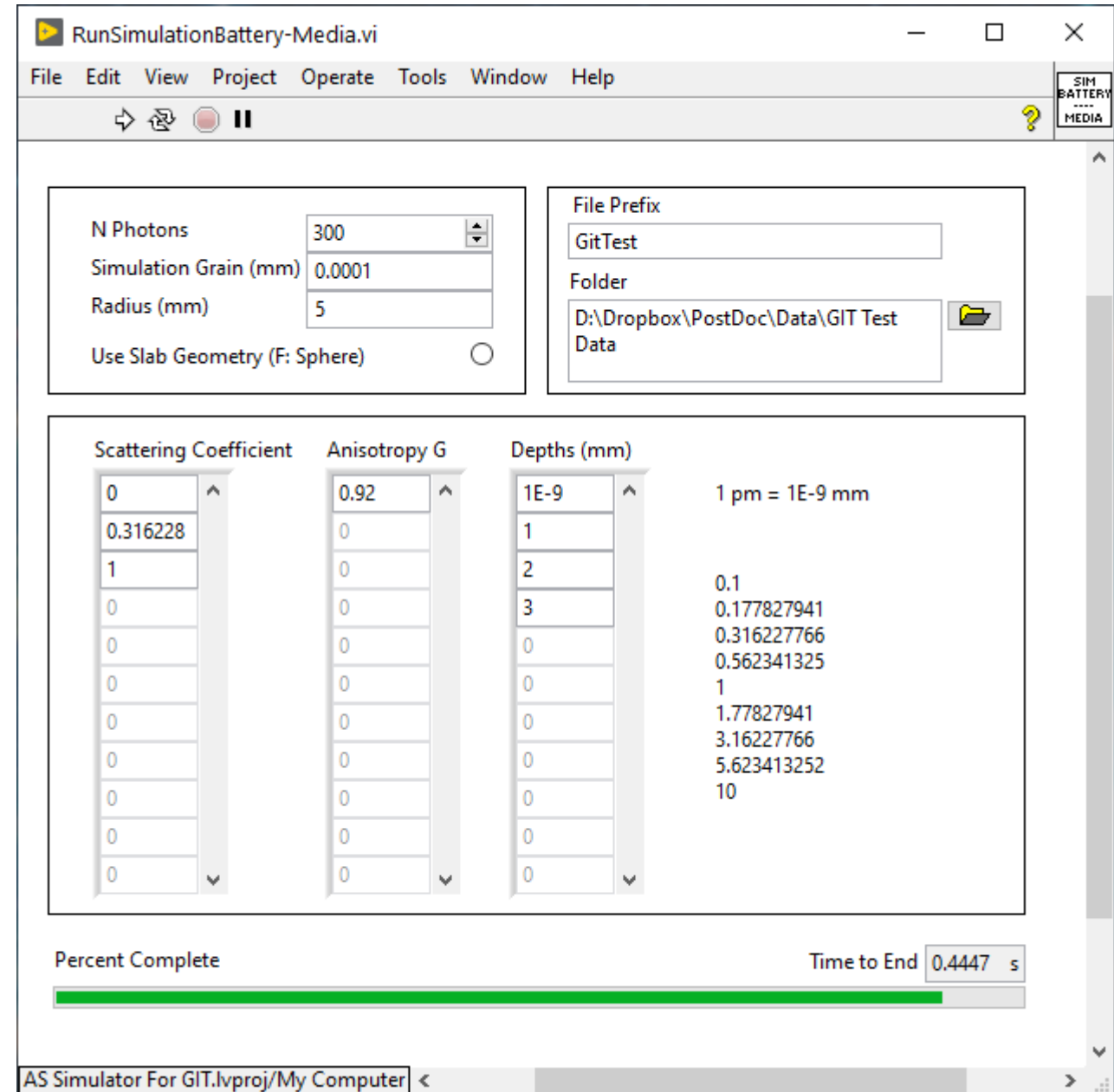
## Step 1: Simulate the Media

- Input the conditions for the simulation
- Then run (ctrl-R)



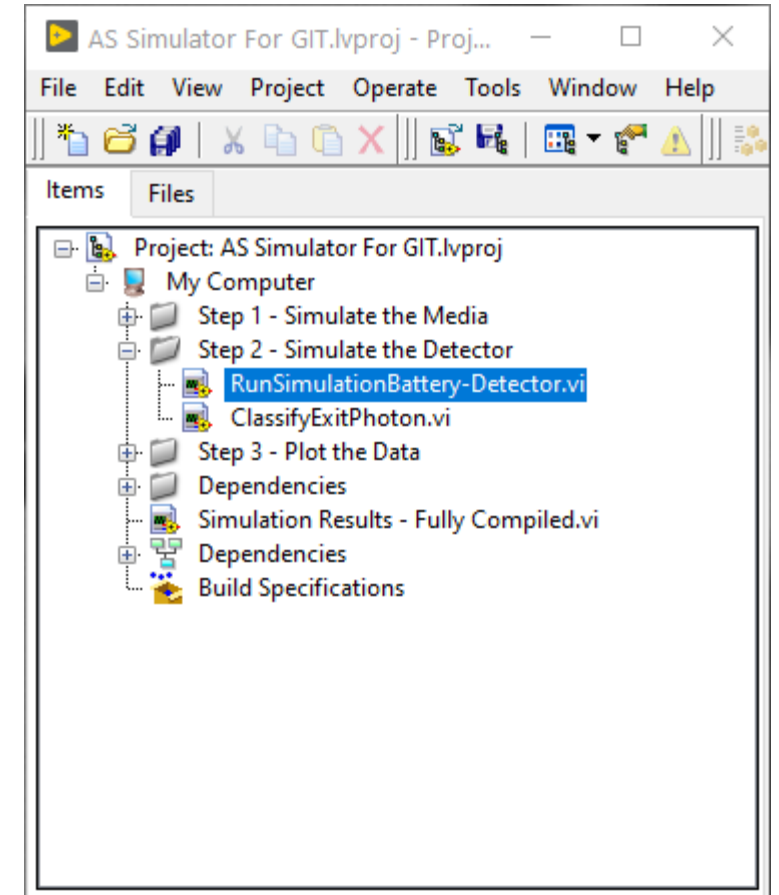
## Step 1: Simulate the Media

- In this example only a small amount of parameter space is explored



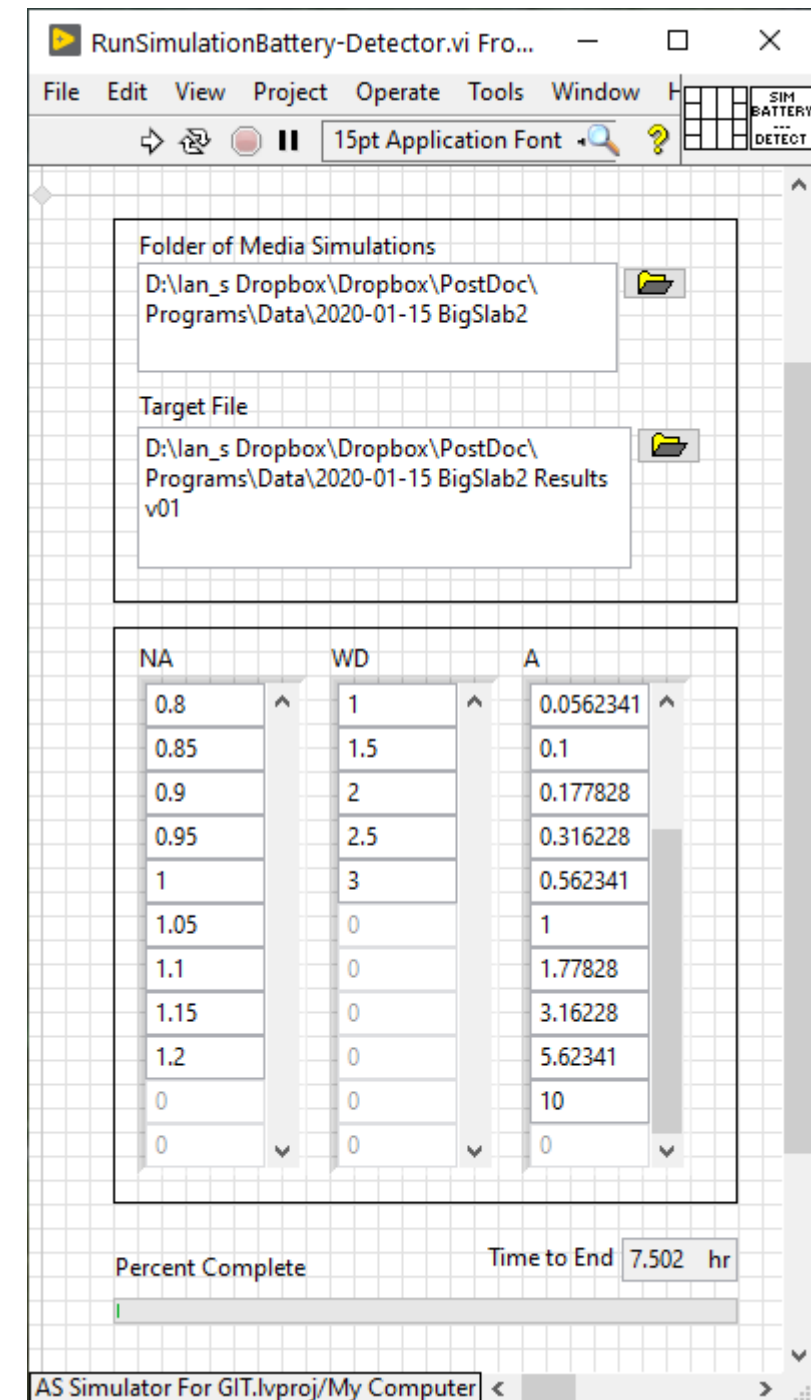
# Step 2: Simulate the Detector

- In this virtual folder are two Vis
  - The thing to run: “RunSimulationBattery-Detector.vi”
  - The primary subVI: “ClassifyExitPhoton.vi”



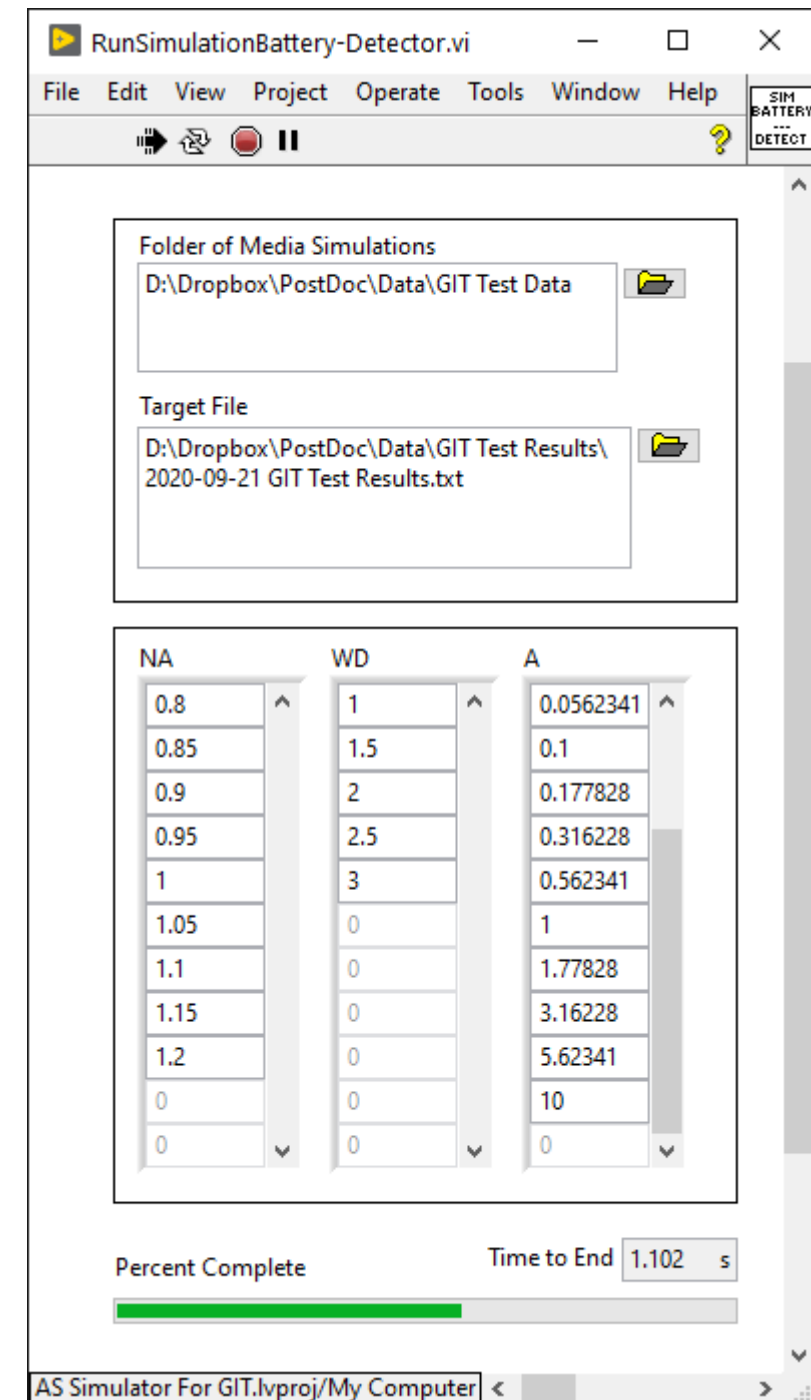
# Step 2: Simulate the Detector

- Input the conditions for the simulation
- Then run (ctrl-R)



## Step 2: Simulate the Detector

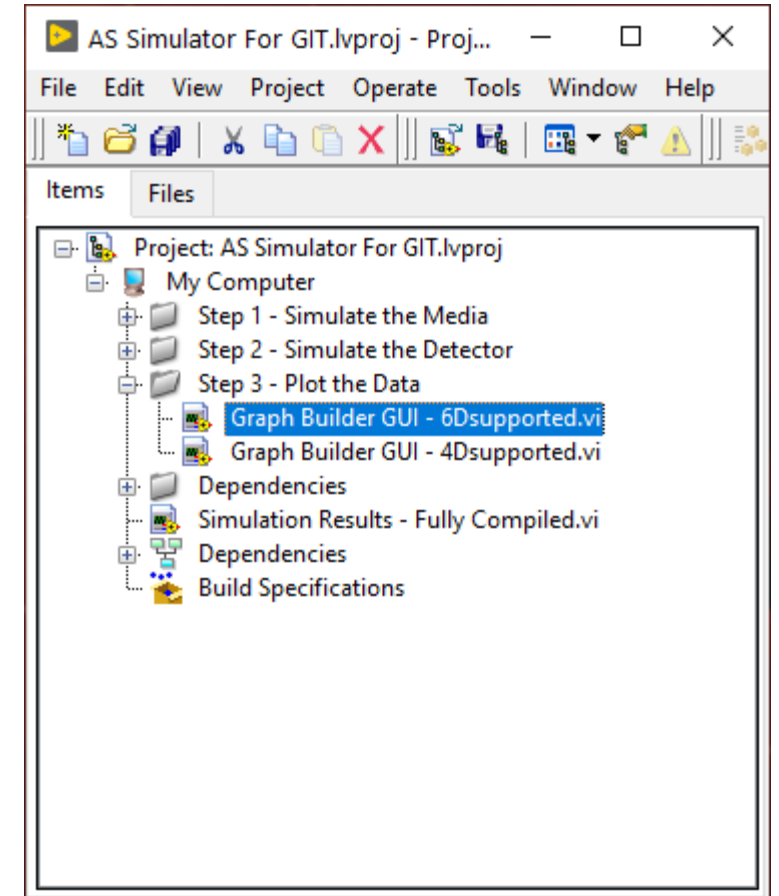
- In this example only a wide parameter space is explored quickly because the data produced was so limited





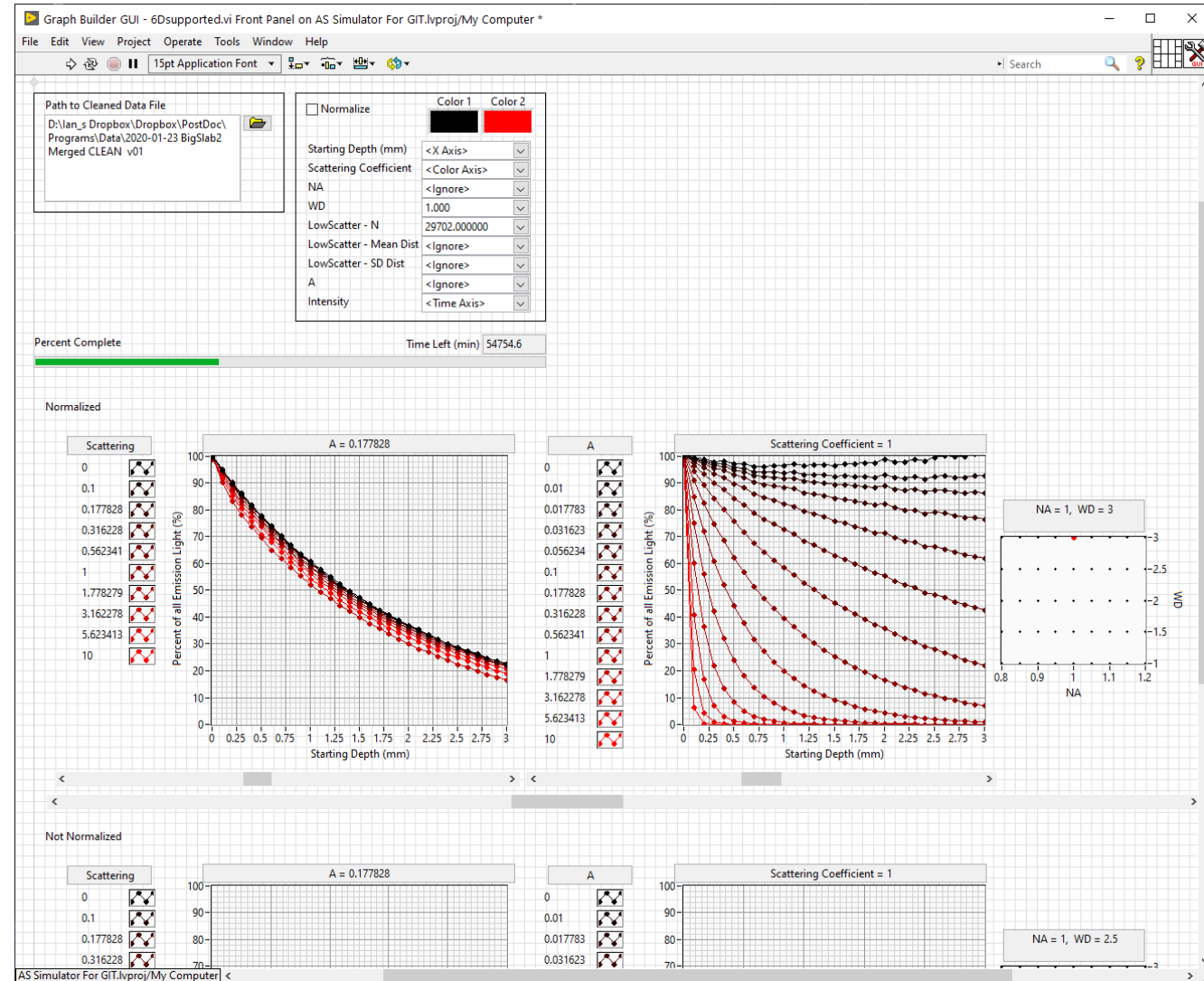
# Step 3: Plot the Data

- In this virtual folder are two Vis
  - Explore all microscope objectives:  
“GraphBuilderGUI – 6Dsupported.vi”
  - Explore a single microscope objective:  
“GraphBuilderGUI – 4Dsupported.vi”



# Step 3: Plot the Data

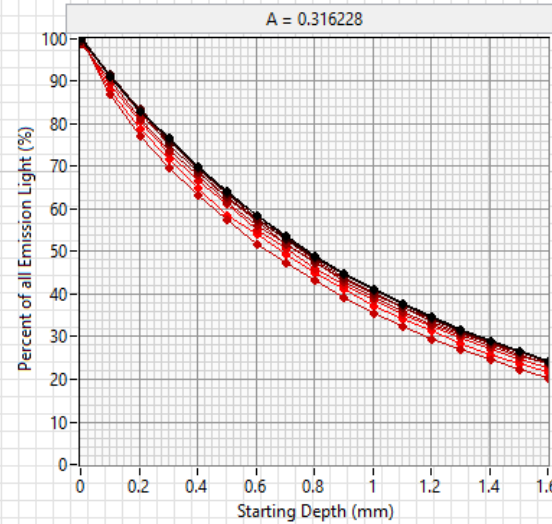
- Select the axes to view, then scroll to explore the data



Normalized

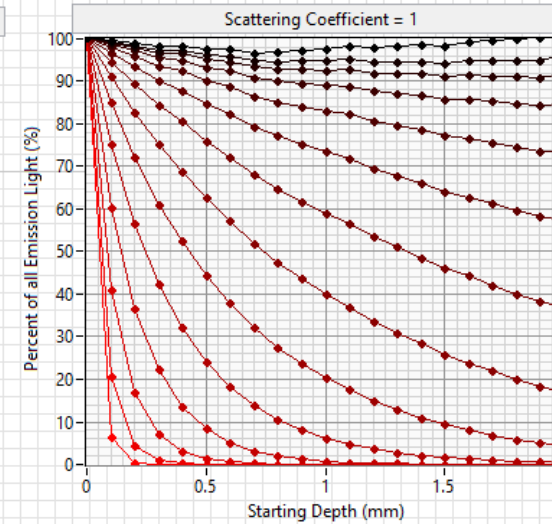
Scattering

- 0
- 0.1
- 0.177828
- 0.316228
- 0.562341
- 1
- 1.778279
- 3.162278
- 5.623413
- 10

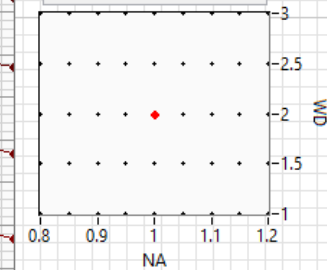


A

- 0
- 0.01
- 0.017783
- 0.031623
- 0.056234
- 0.1
- 0.177828
- 0.316228
- 0.562341
- 1
- 1.778279
- 3.162278
- 5.623413
- 10



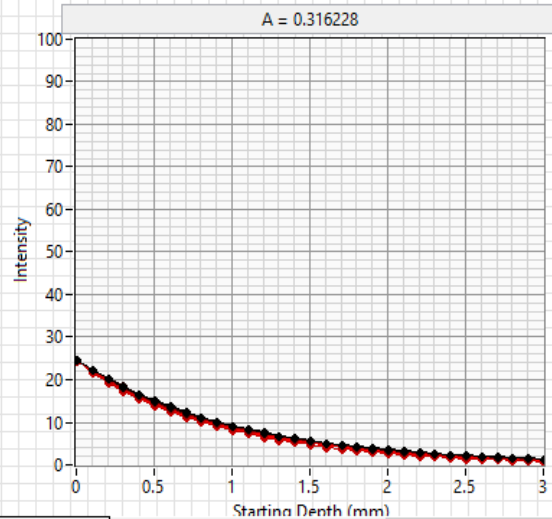
NA = 1, WD = 2



Not Normalized

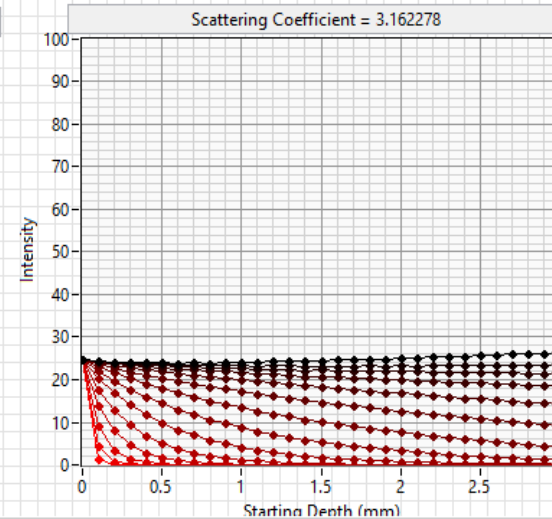
Scattering

- 0
- 0.1
- 0.177828
- 0.316228
- 0.562341
- 1
- 1.778279
- 3.162278
- 5.623413
- 10



A

- 0
- 0.01
- 0.017783
- 0.031623
- 0.056234
- 0.1
- 0.177828
- 0.316228
- 0.562341
- 1
- 1.778279
- 3.162278
- 5.623413
- 10



NA = 1.15, WD = 3

