

VISUALIZING CLARITY

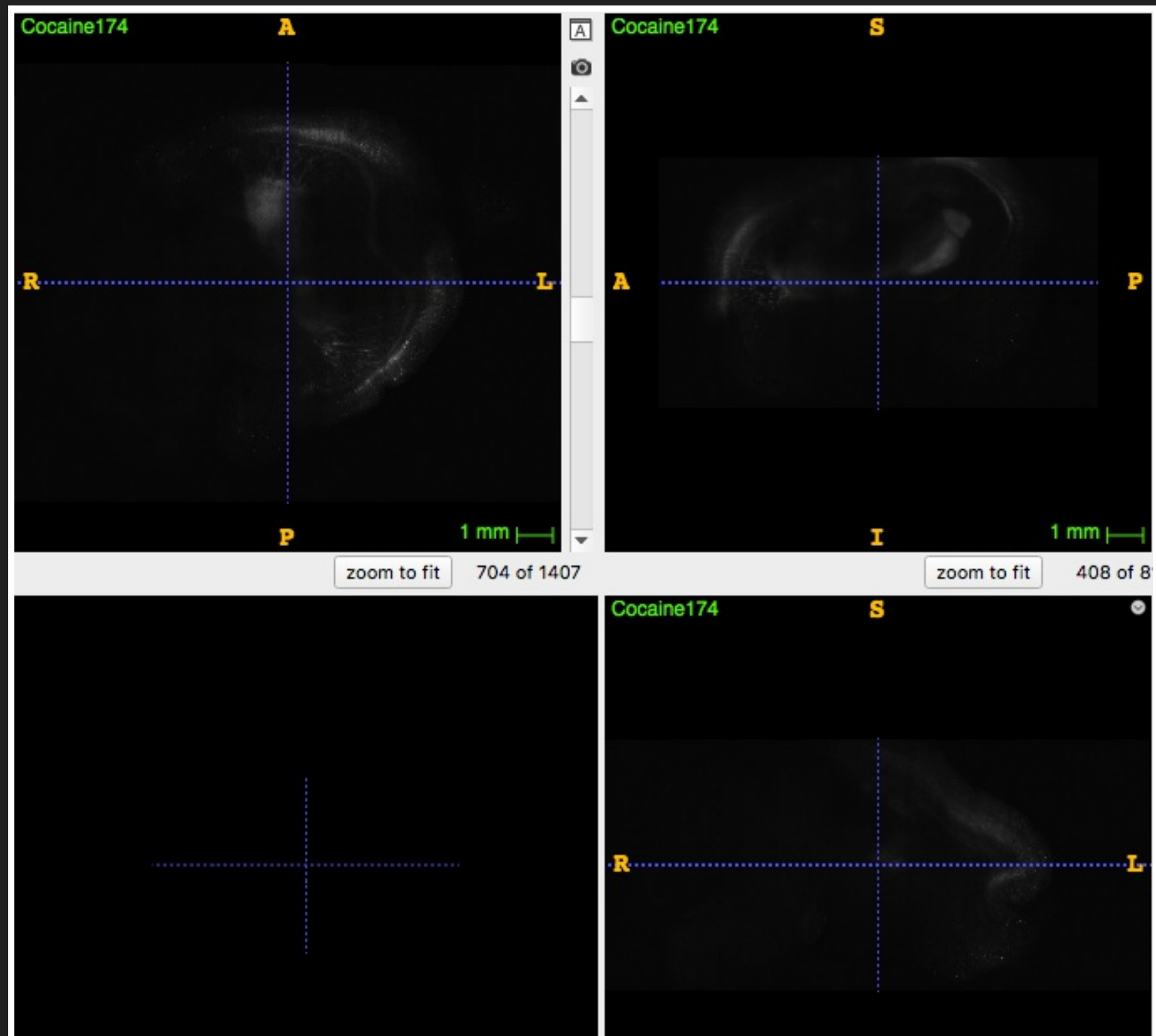
FROM BRAINS TO HYDROGELS TO DATA

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WHAT IS CLARITY?

Clarity is an imaging technique that uses hydrogels to make brains transparent allowing for damage-free access to key neuronal structures.

ITKSNAP VISUALIZATION



PROS

- Raw data
- Highest order resolution
- Annotation capabilities

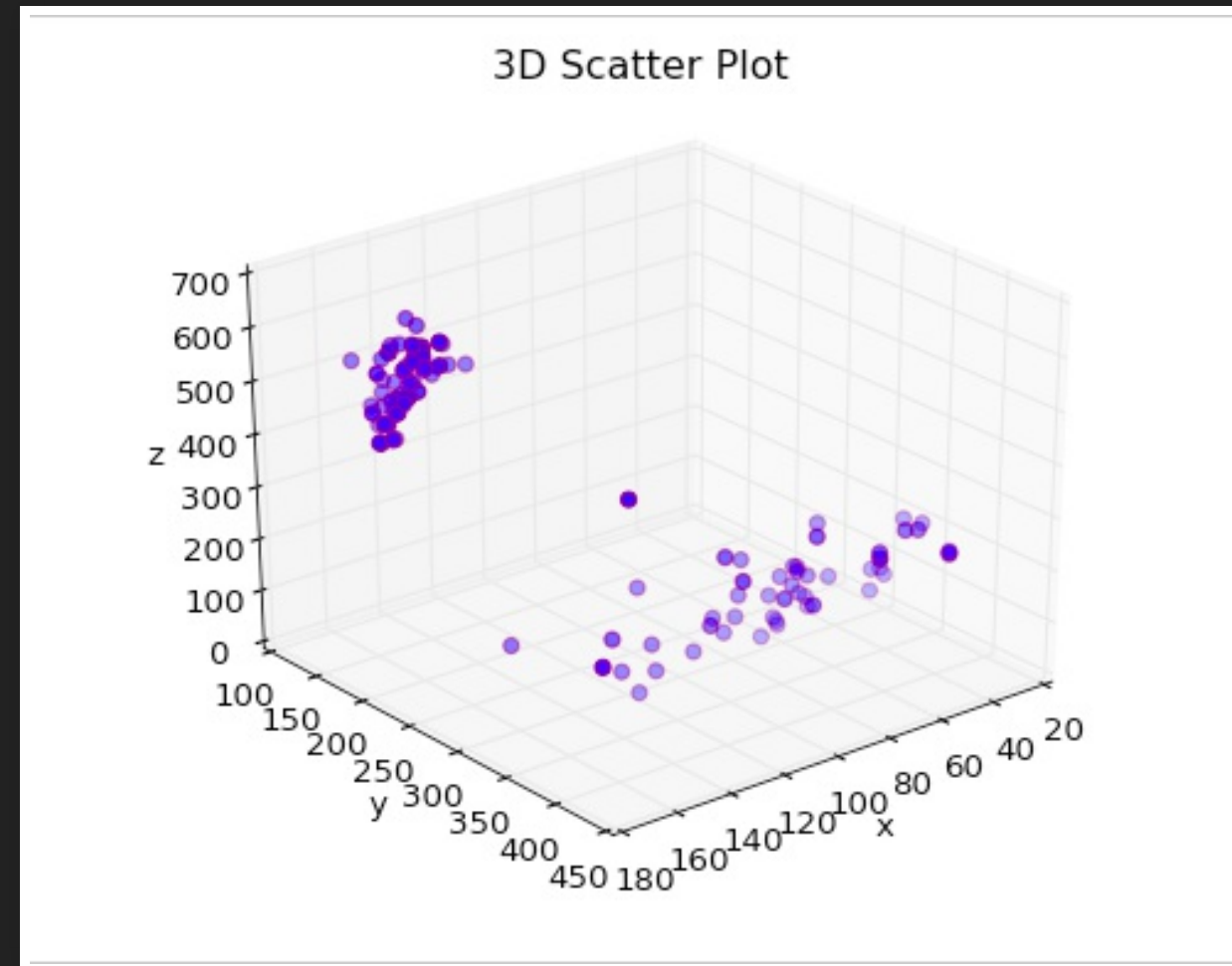
CONS

- 2D representation
- Annotation is irrelevant
- Difficult to manipulate

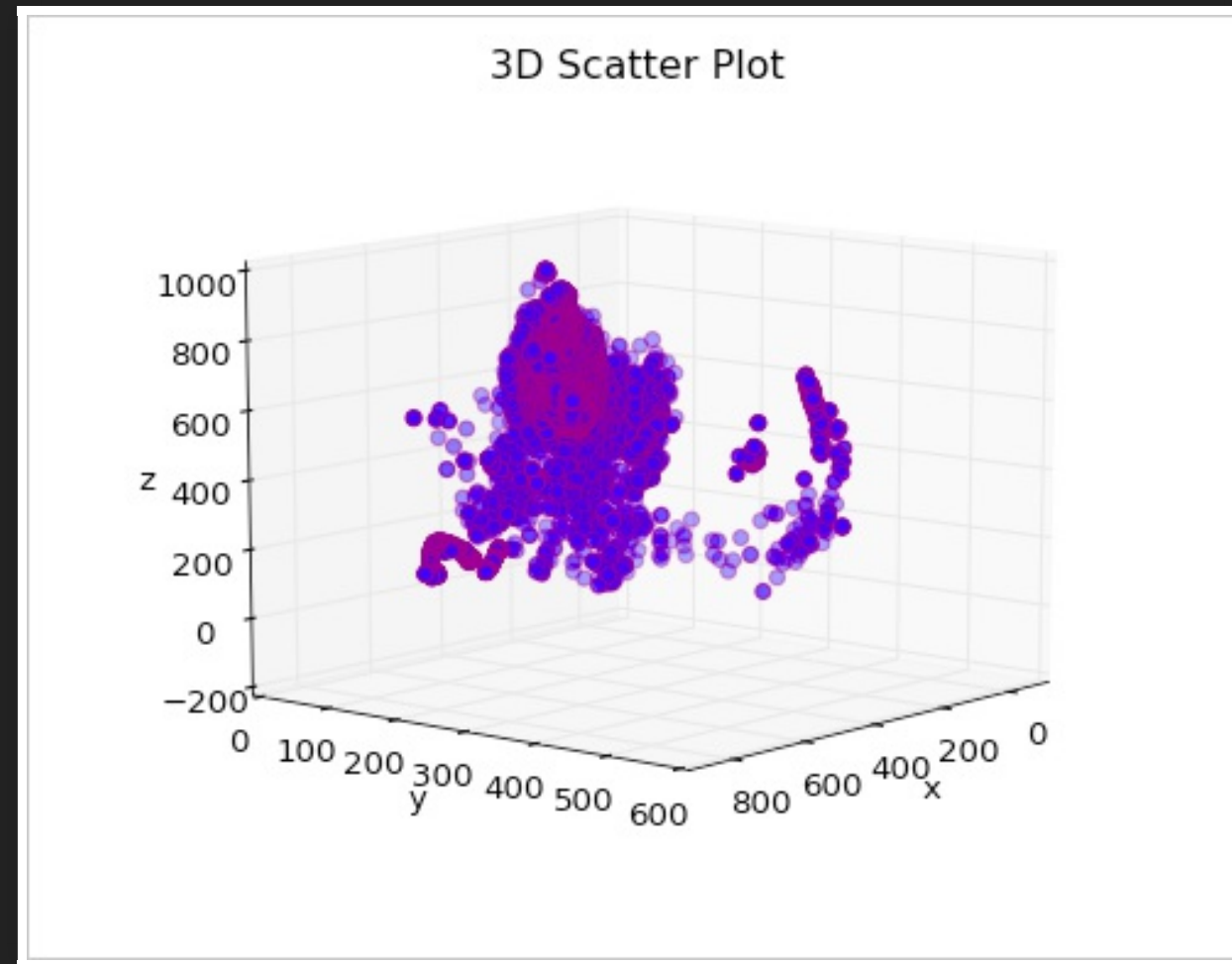
SOLUTION

3D plotting

MATPLOTLIB - HIGH THRESHOLD



MATPLOTLIB - LOW THRESHOLD



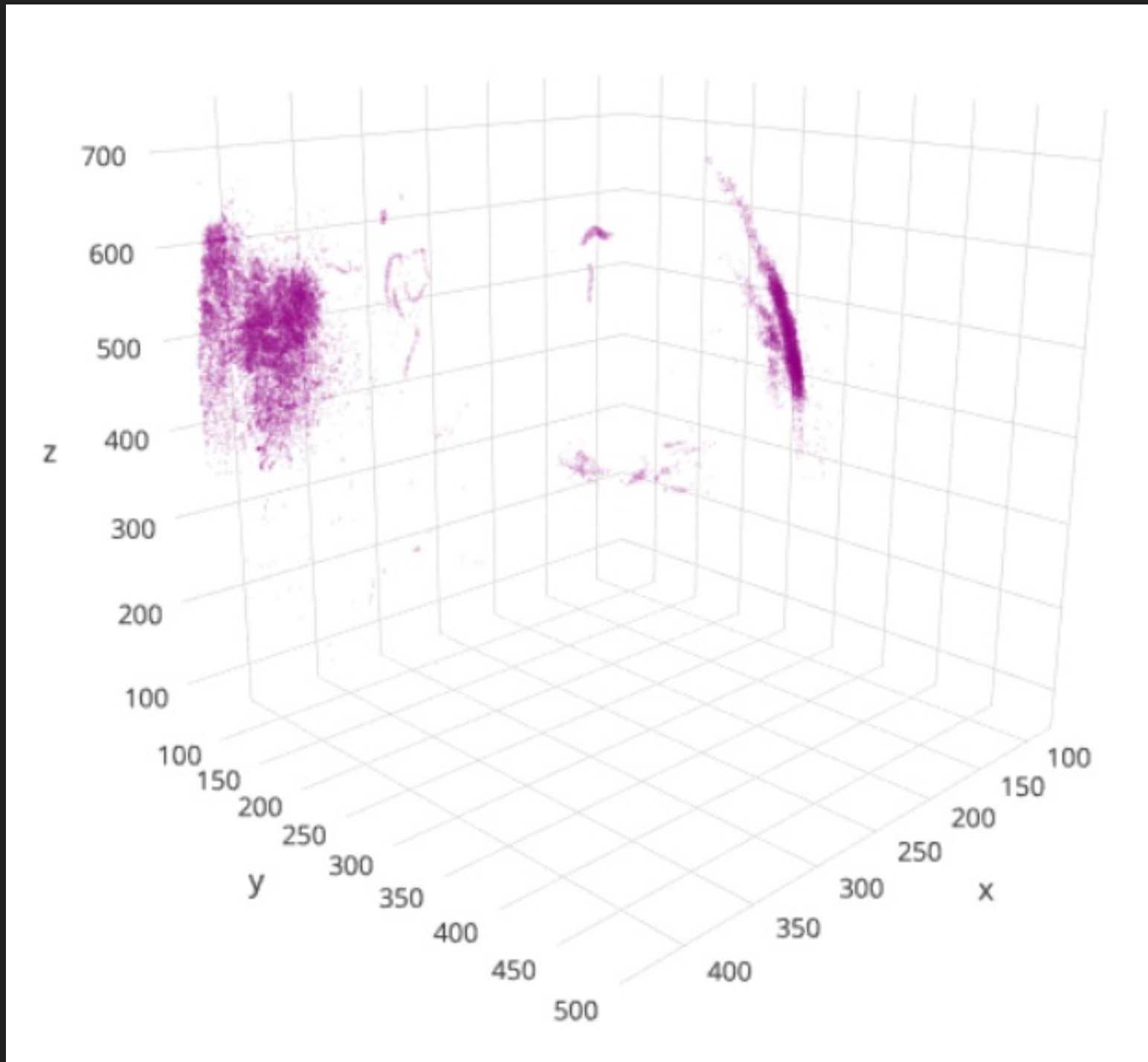
PROS

- Easy
- High functionality

CONS

- Low customizability
- Poor performance
- Outdated stylistically

PLOTLY



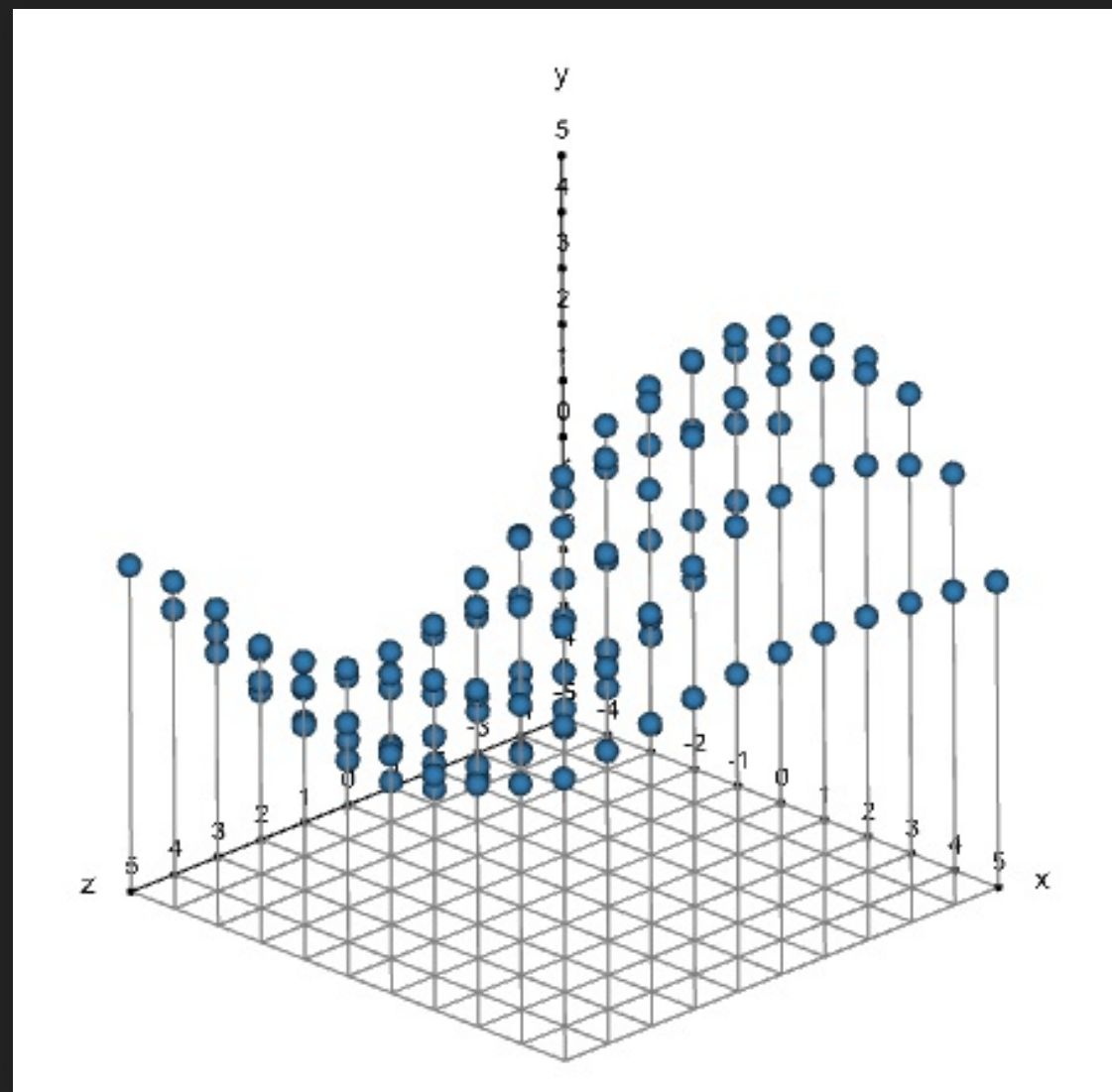
PROS

- Professional and elegant
- Powerful in scope
- Simple API

CONS

- Learning curve
- Expensive/Restricted Access
- Limited manipulativity

JAVASCRIPT



PROS

- Professional and elegant
- Extremely powerful
- Completely manipulatable

CONS

- Steep learning curve
- Multiple languages
- Difficult to debug

CONCLUSION

3D plotting is a superior method towards visualizing Clarity data. More work needs to be done standardizing the thresholding/sampling, however there is much potential when factoring in opacity metrics.