

# ANSYS SIMULATION & ANALYSIS

For

Anemia Diagnosis

-Ganapathi Karthik V

-Ashwanth S

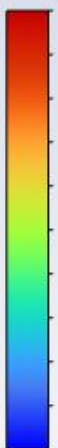
# CONTENTS

- T-SHAPED MICROCHANNEL
- F-SHAPE MICROCHANNEL
- TAP SHAPED MICROCHANNEL
- DUAL-RING BASED MICROCHANNEL
- PIPETTE BASED MICROCHANNEL
- SMALL INTESTINE BASED MICROCHANNEL

# T shaped Microchannel

# Velocity Gradient

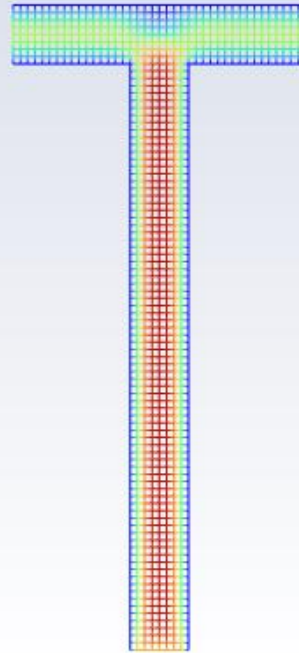
contour-1  
Velocity Magnitude



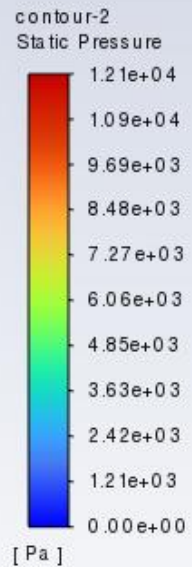
[ m/s ]

A vertical color bar representing the velocity magnitude scale. It transitions from blue at the bottom to red at the top, with intermediate colors of green, yellow, and orange. The scale is marked with numerical values in scientific notation.

| Velocity Magnitude [ m/s ] |
|----------------------------|
| 1.45e-01                   |
| 1.31e-01                   |
| 1.16e-01                   |
| 1.02e-01                   |
| 8.73e-02                   |
| 7.27e-02                   |
| 5.82e-02                   |
| 4.36e-02                   |
| 2.91e-02                   |
| 1.45e-02                   |
| 0.00e+00                   |

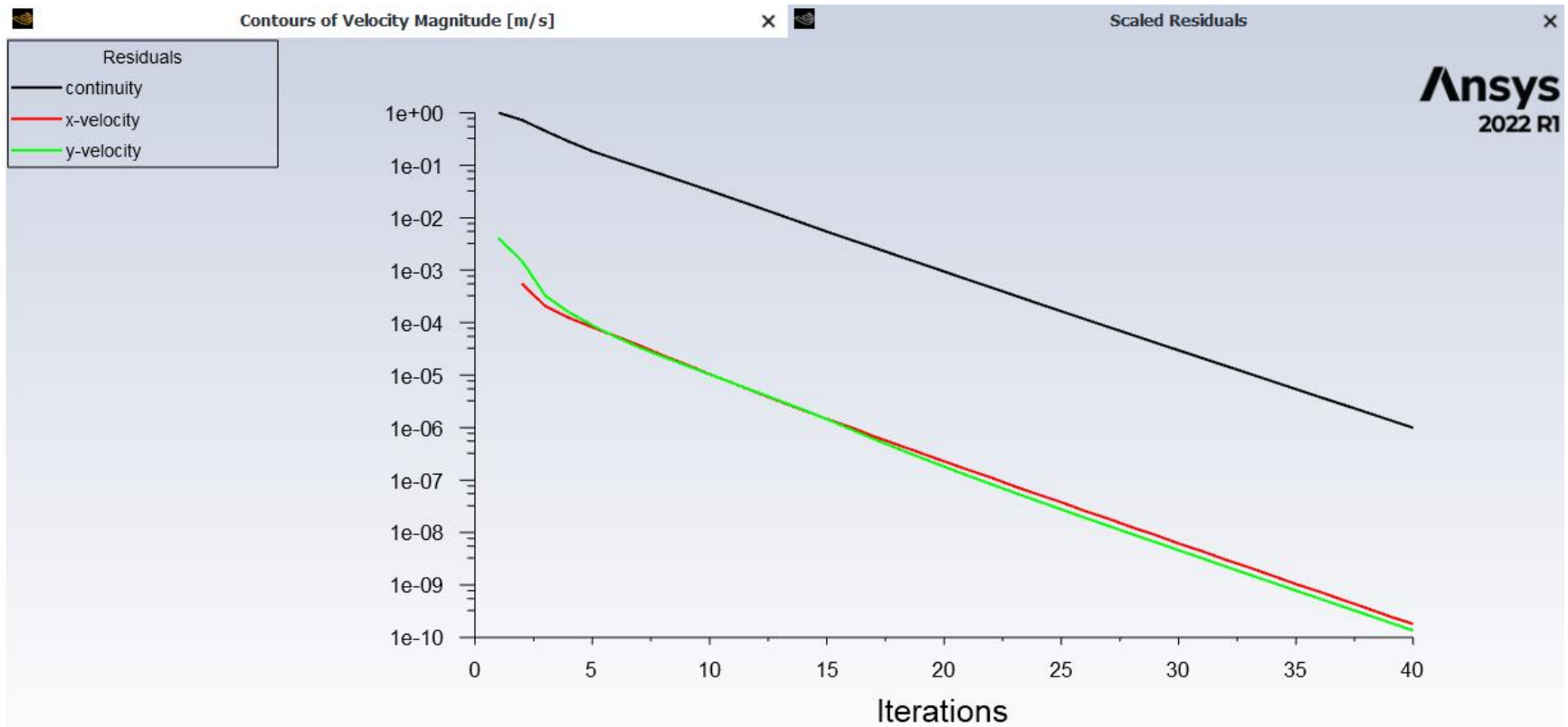


# Pressure Gradient



contour-2  
Static Pressure

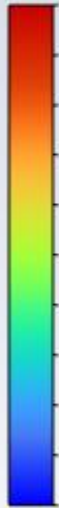
# Iterative Graph



# F-Shaped MicroChannel

# Pressure Gradient

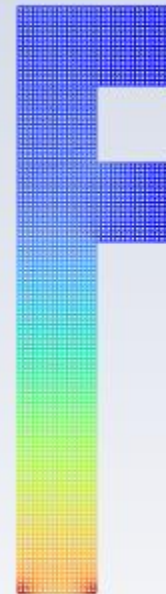
contour-1  
Static Pressure



A vertical color bar representing the static pressure scale. It transitions from blue at the bottom to red at the top, with intermediate colors of cyan, green, and yellow. The bar is divided into segments corresponding to the numerical values listed on the right.

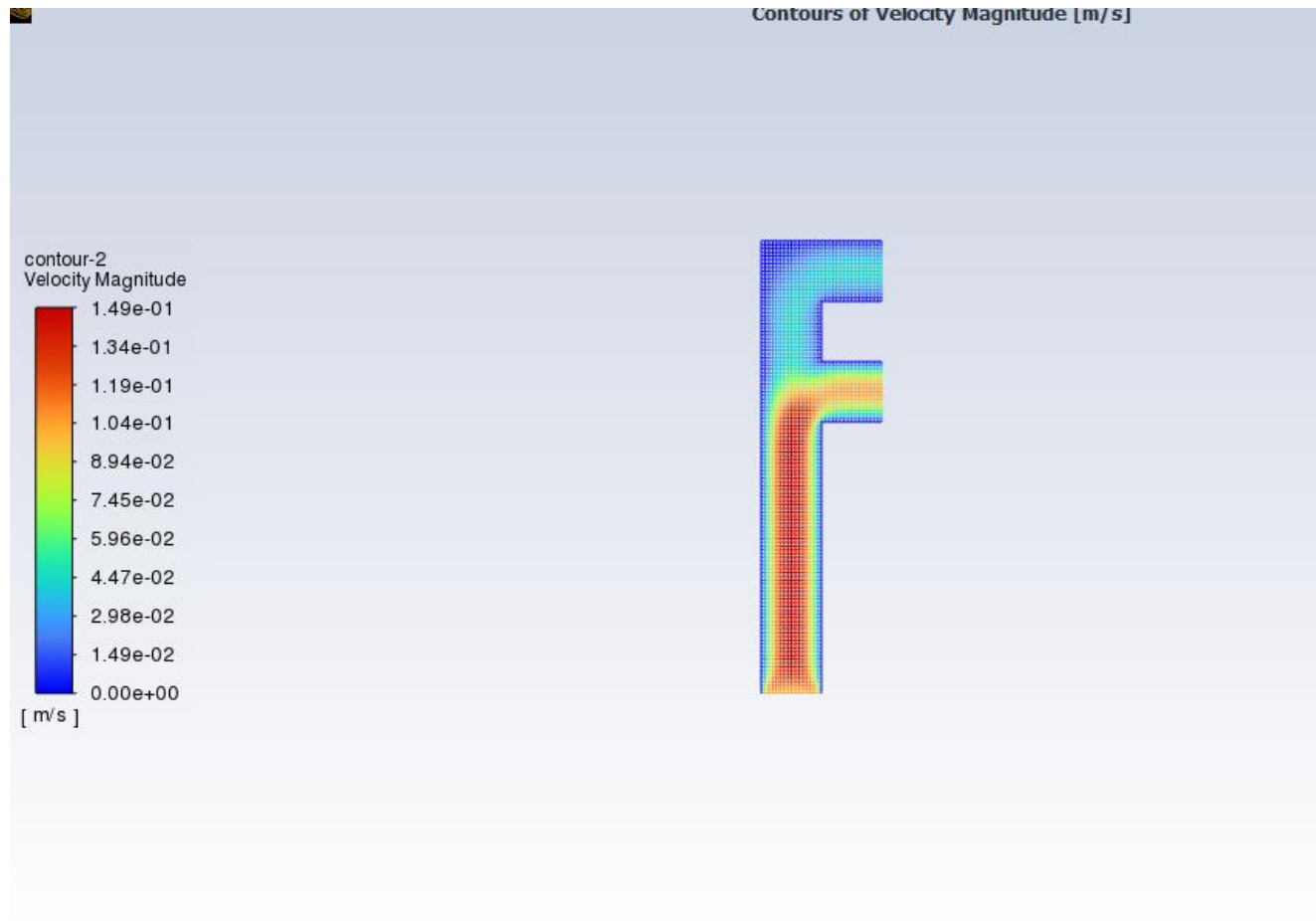
| Pressure Value (Pa) |
|---------------------|
| 4.30e+03            |
| 3.87e+03            |
| 3.44e+03            |
| 3.01e+03            |
| 2.58e+03            |
| 2.15e+03            |
| 1.72e+03            |
| 1.29e+03            |
| 8.60e+02            |
| 4.30e+02            |
| 0.00e+00            |

[ Pa ]

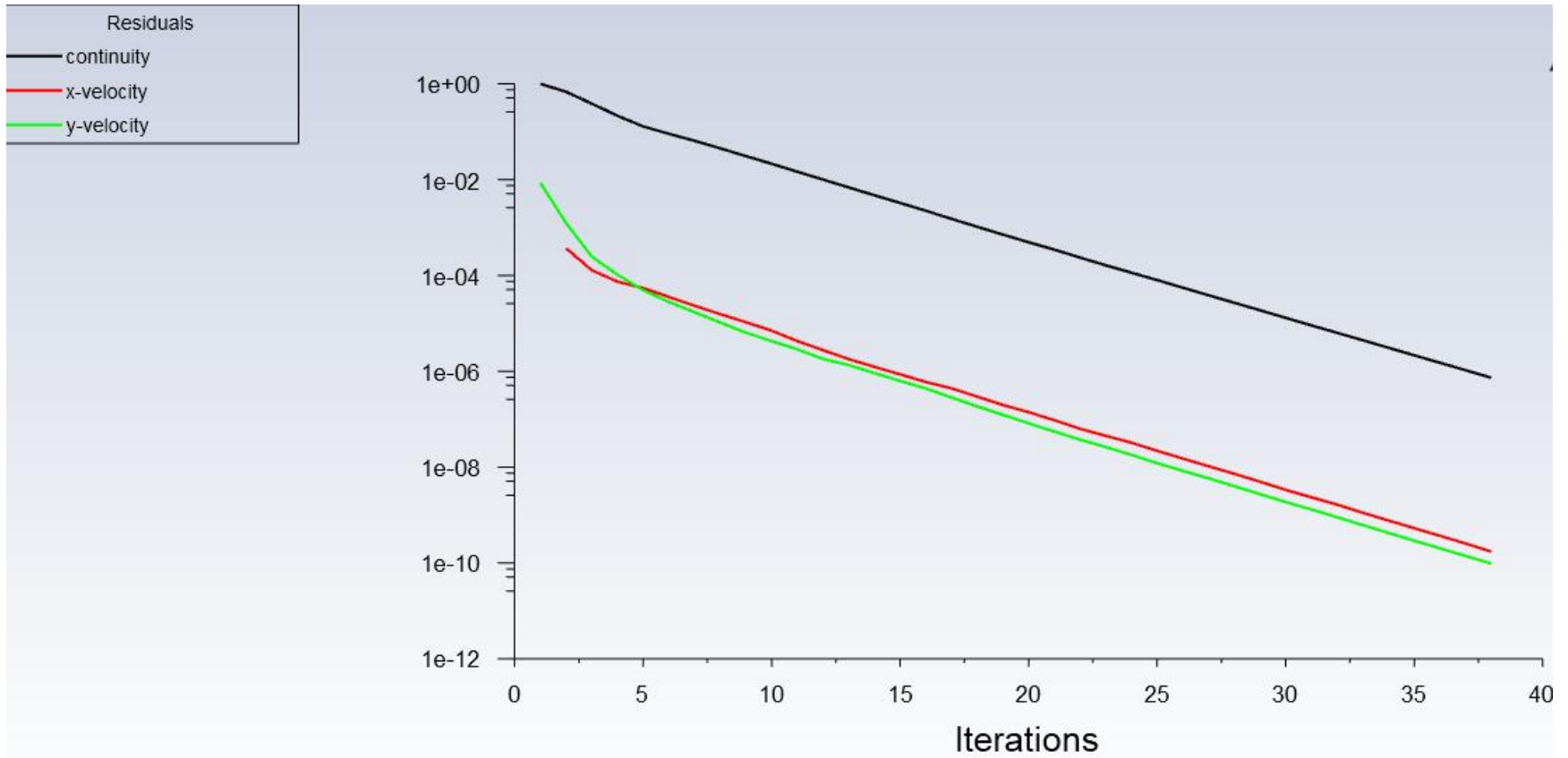




# Velocity Gradient

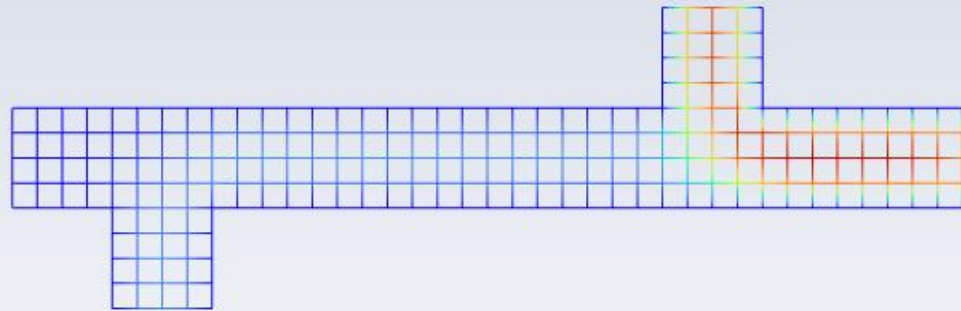
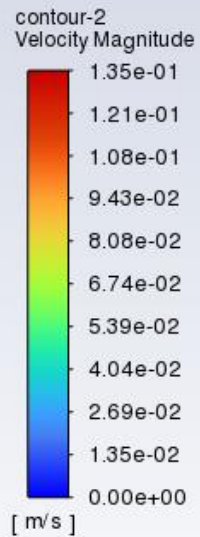


# Iterative Graph

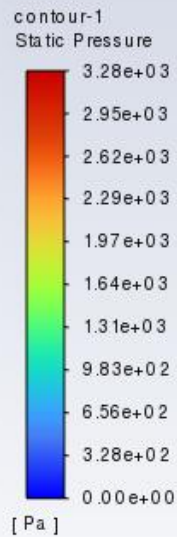


# TAP Shaped MicroChannel

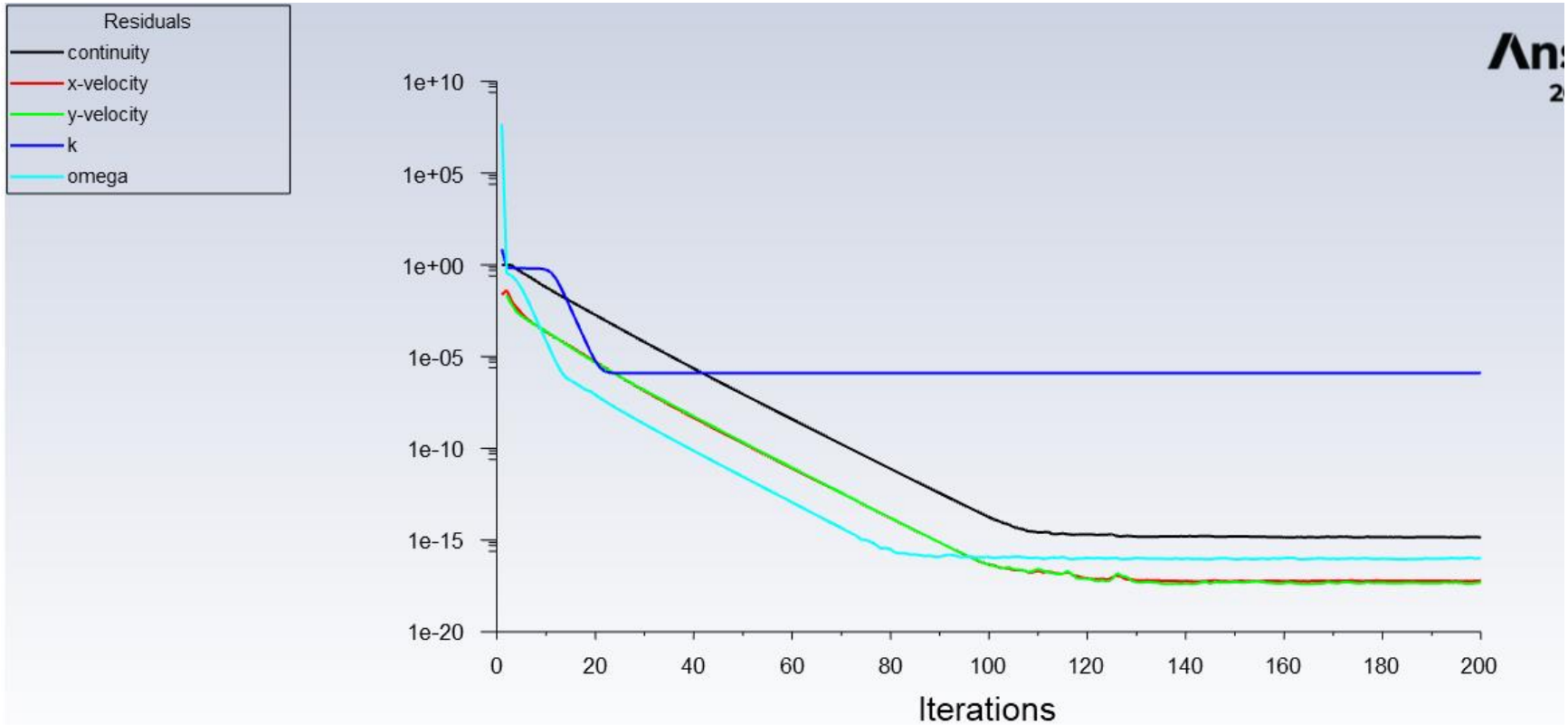
# Velocity Gradient



# Pressure Gradient

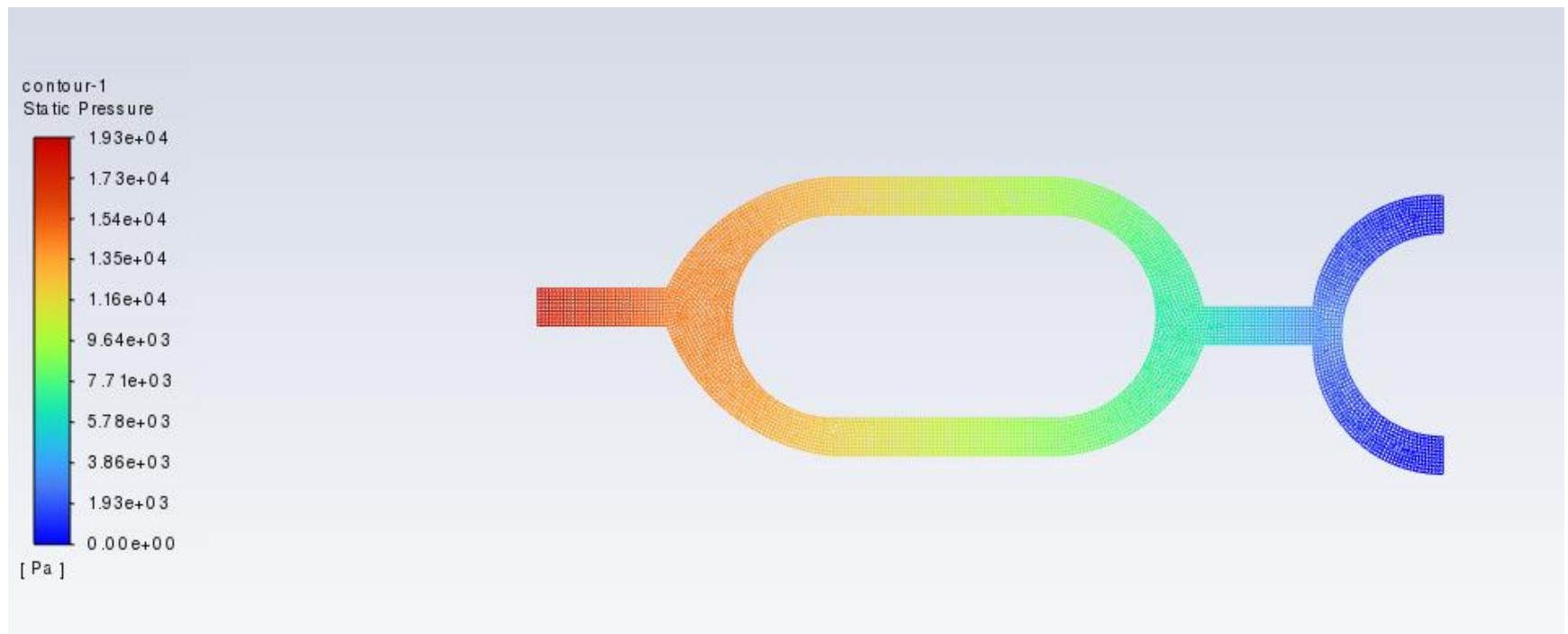


# Iteration Graph



# DUAL RING BASED MICROCHANNEL


# Pressure Gradient





# Velocity Gradient

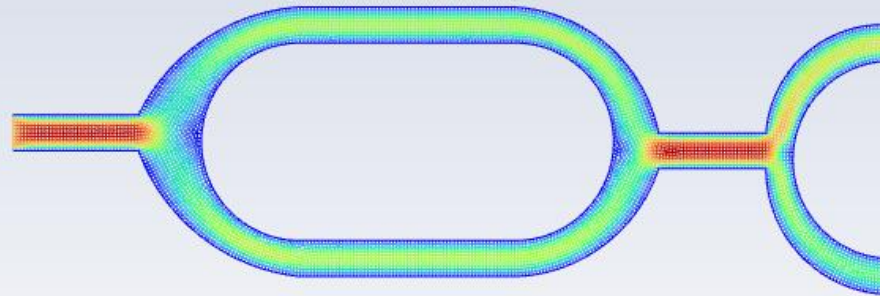
contour-2  
Velocity Magnitude



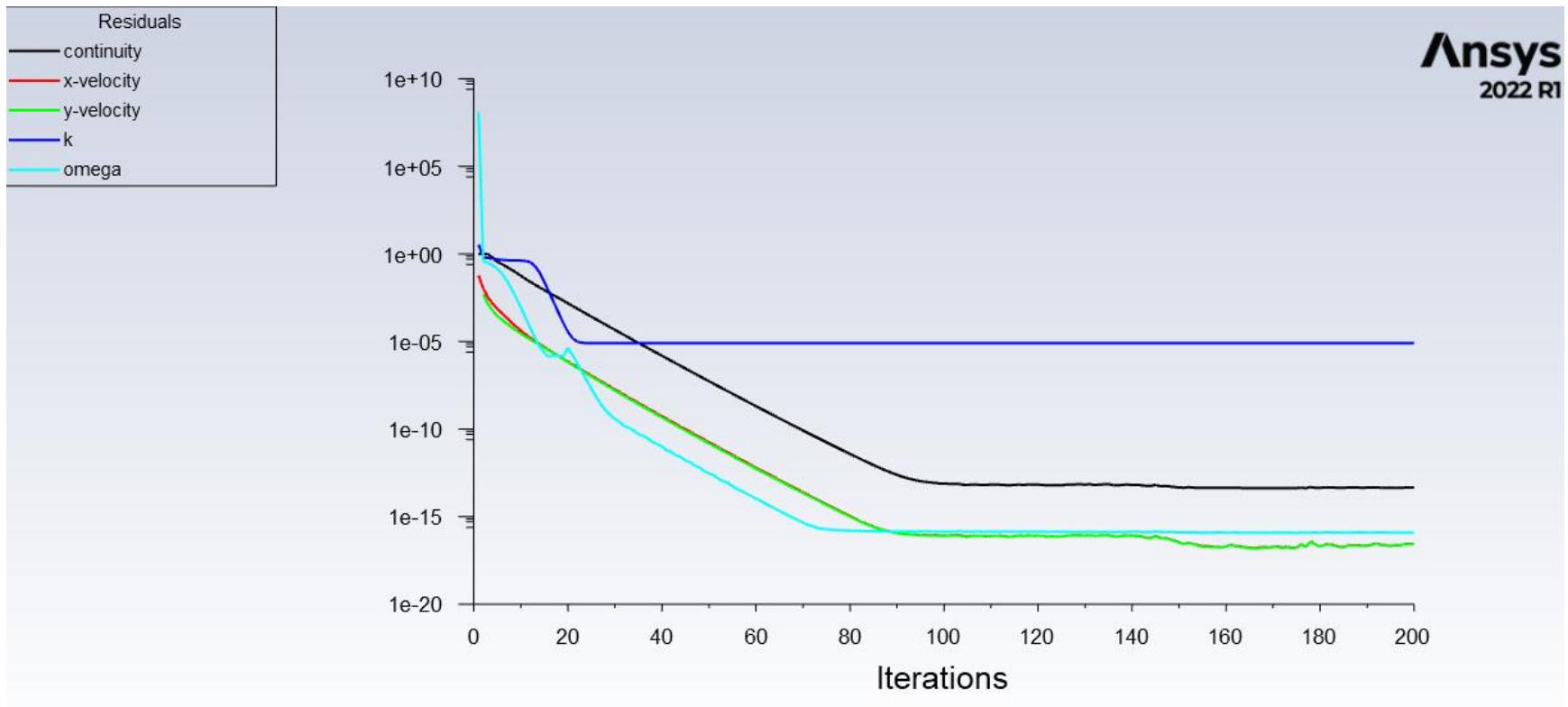
A vertical color bar representing the velocity magnitude scale. It transitions from blue at the bottom to red at the top, with intermediate colors of green, yellow, and orange. The scale is marked with numerical values in scientific notation.

| Velocity Magnitude [ m/s ] |
|----------------------------|
| 1.47e-01                   |
| 1.33e-01                   |
| 1.18e-01                   |
| 1.03e-01                   |
| 8.84e-02                   |
| 7.37e-02                   |
| 5.90e-02                   |
| 4.42e-02                   |
| 2.95e-02                   |
| 1.47e-02                   |
| 0.00e+00                   |

[ m/s ]

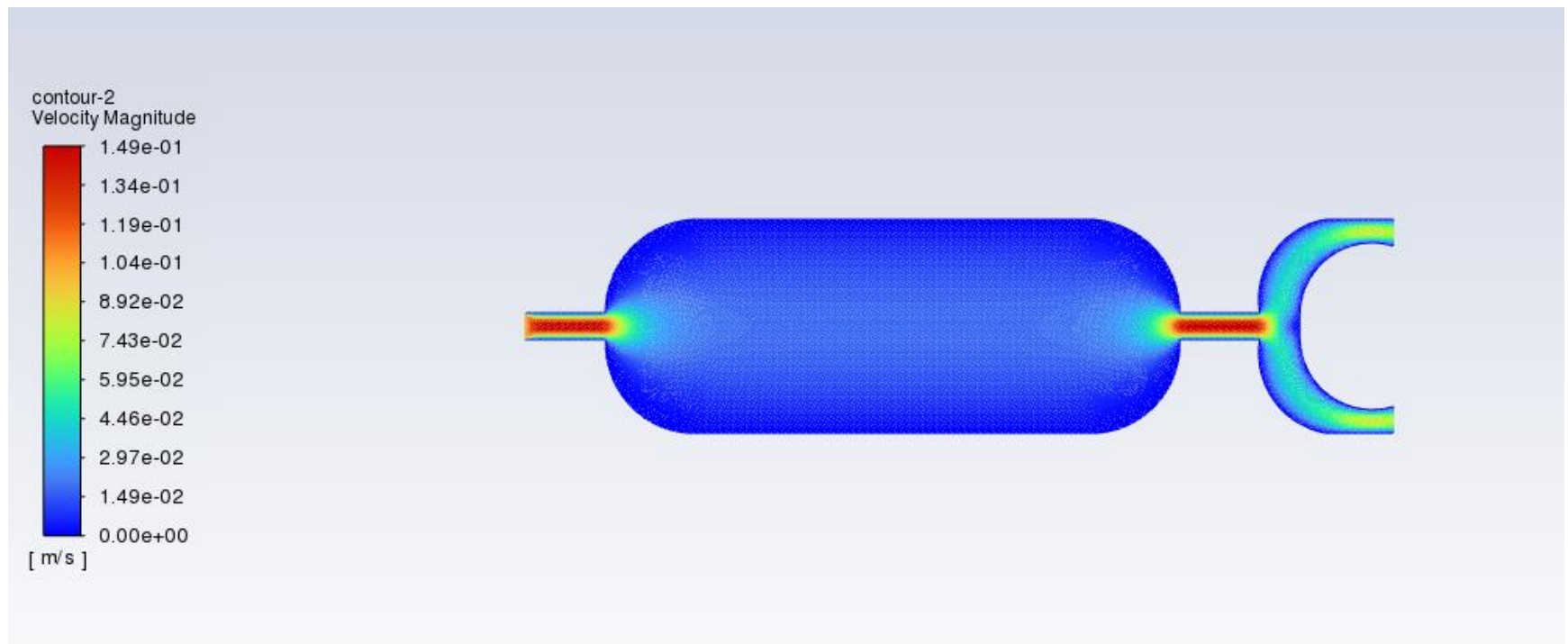


# Iterative Graph

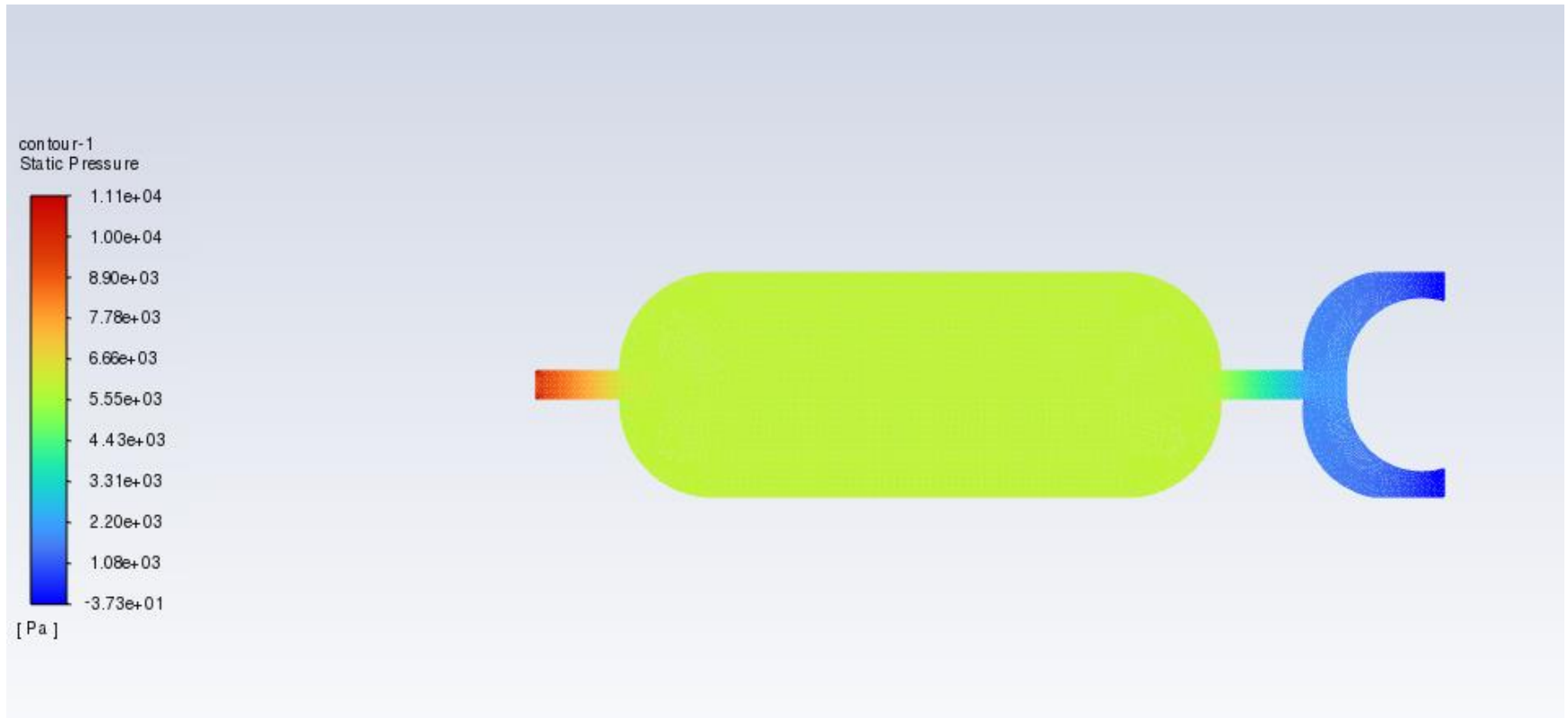


# PIPETTE BASED MICROCHANNEL

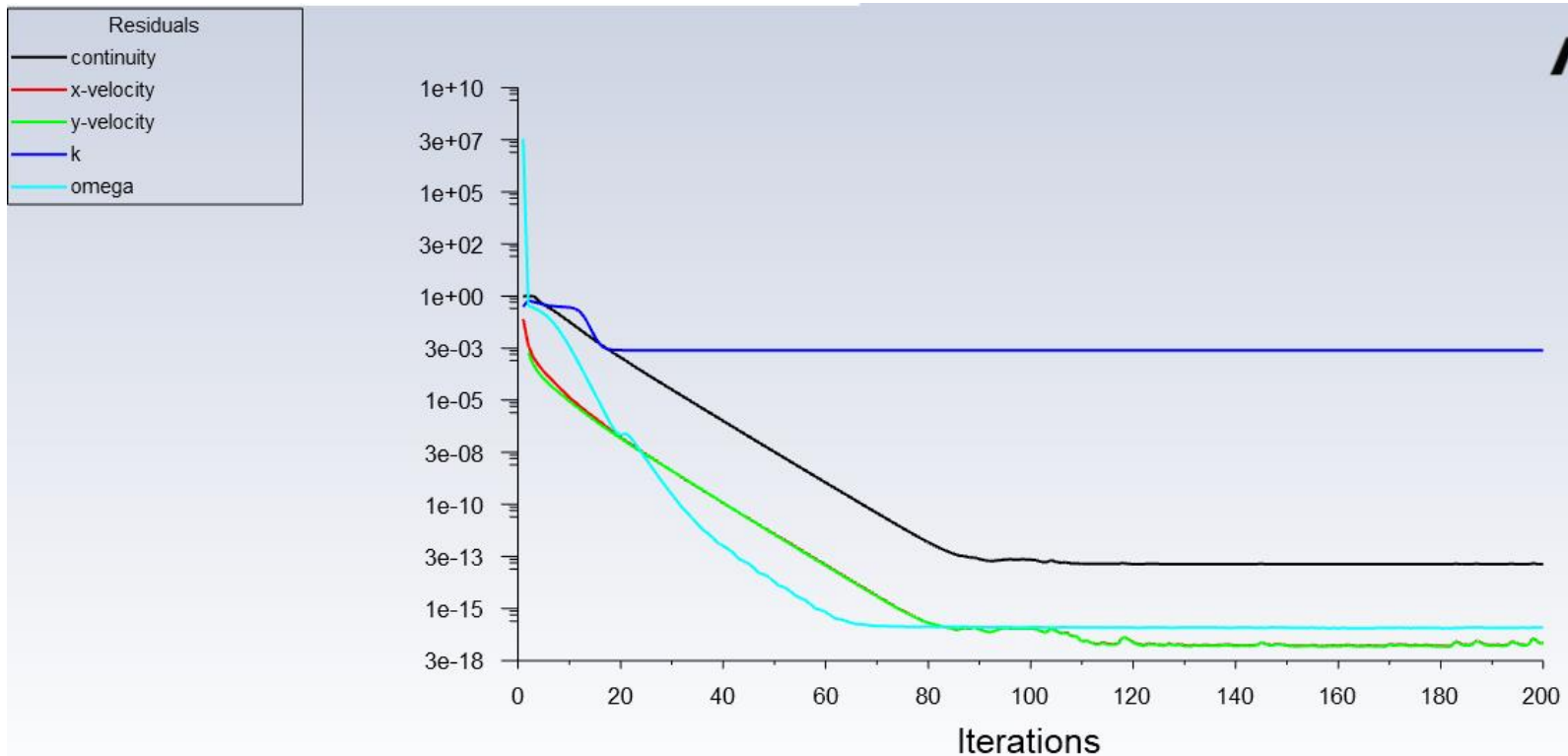
# Velocity Gradient



# Pressure Gradient

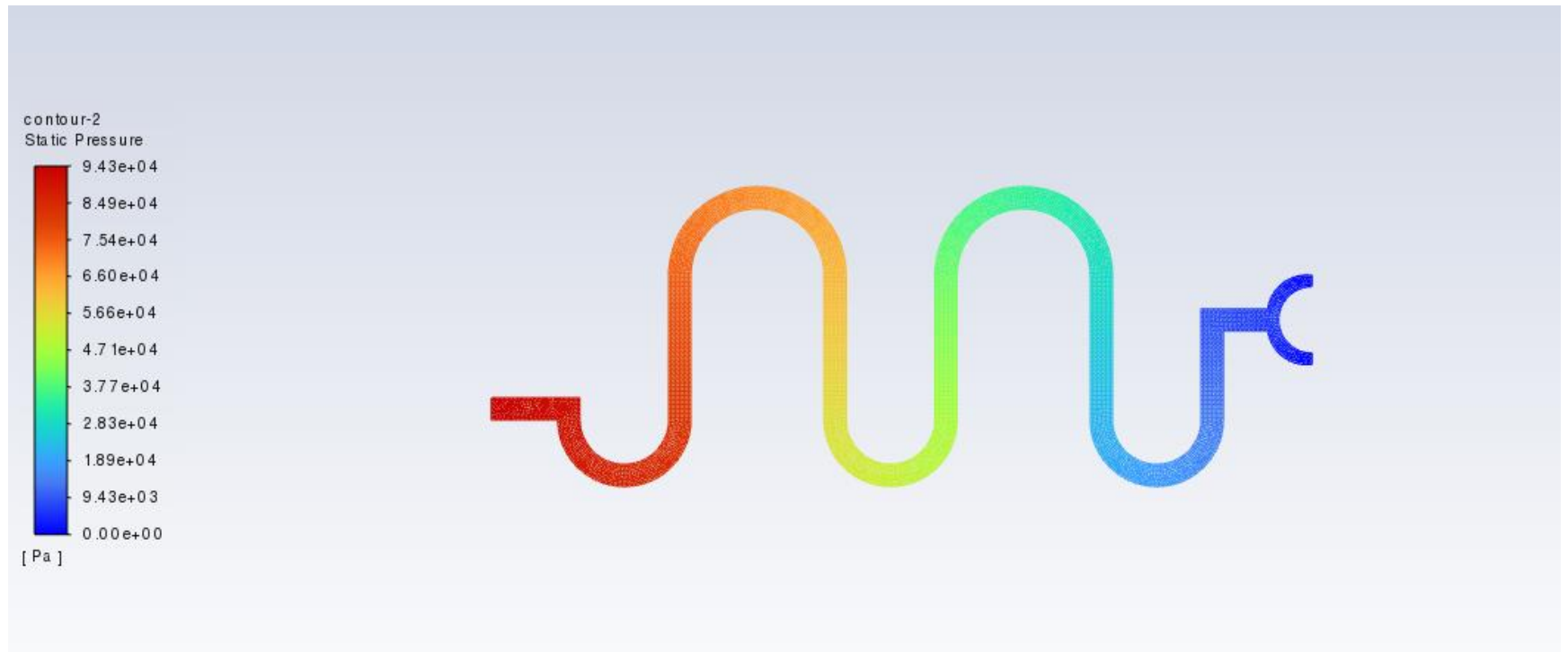


# Iterative Graph



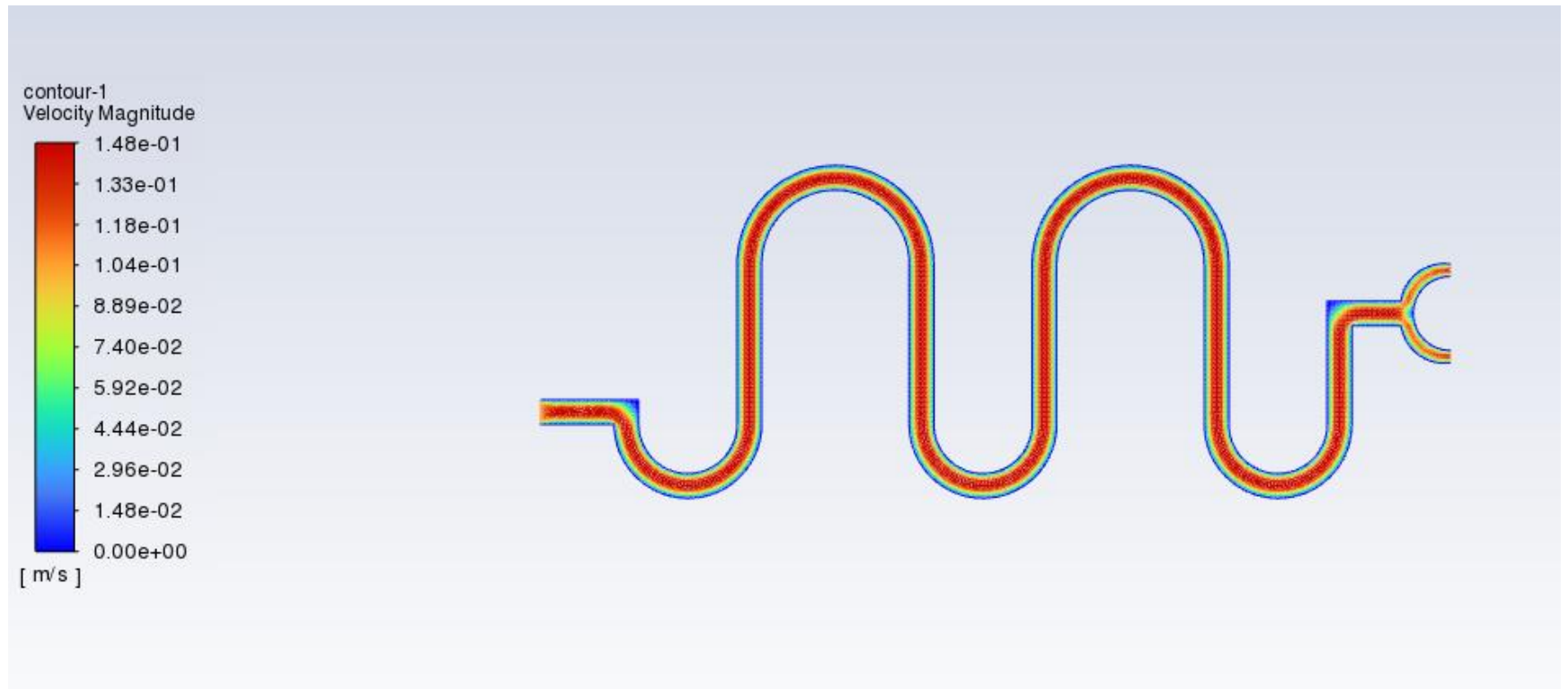
# INTESTINE BASED MICROCHANNEL

# Pressure Gradient

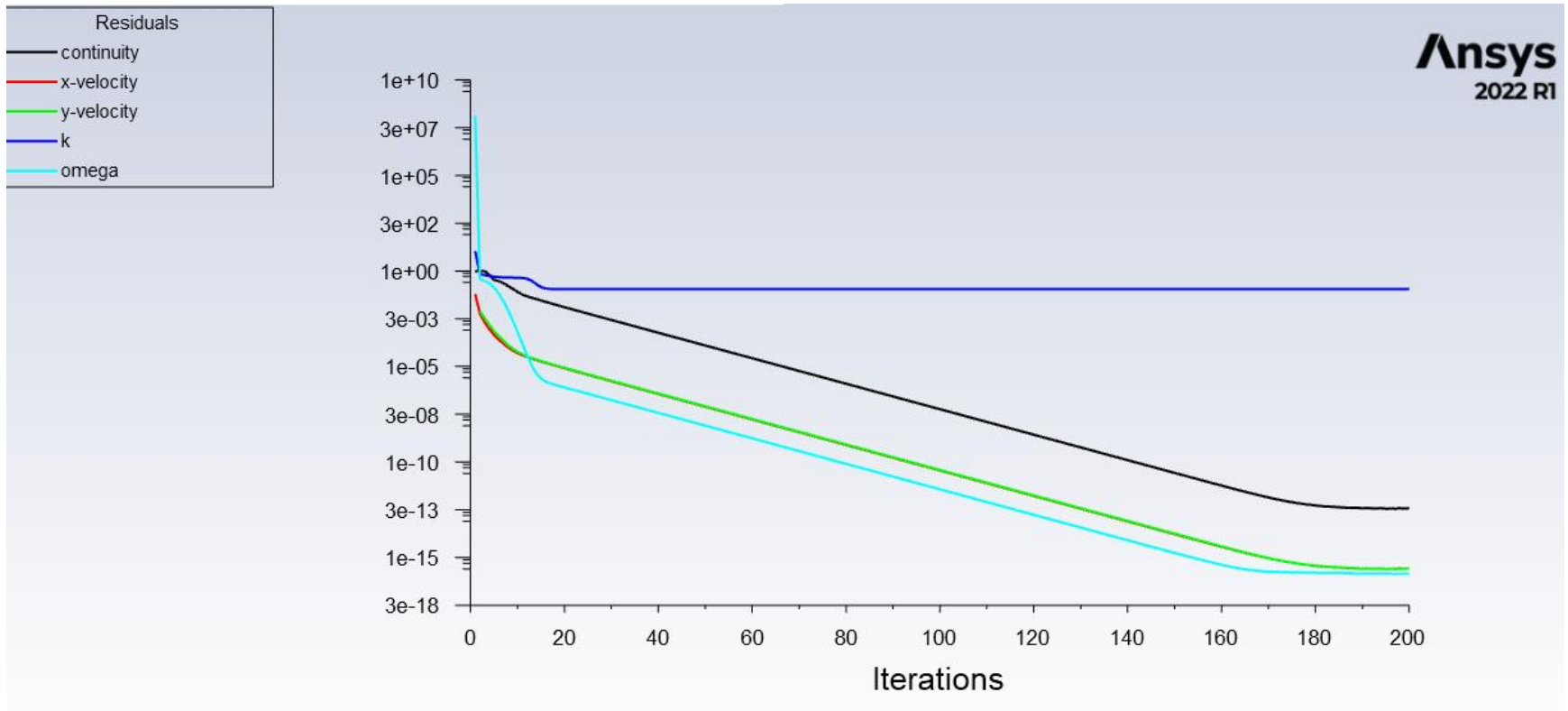




# Velocity Gradient



# Iterative Graph



THANK YOU