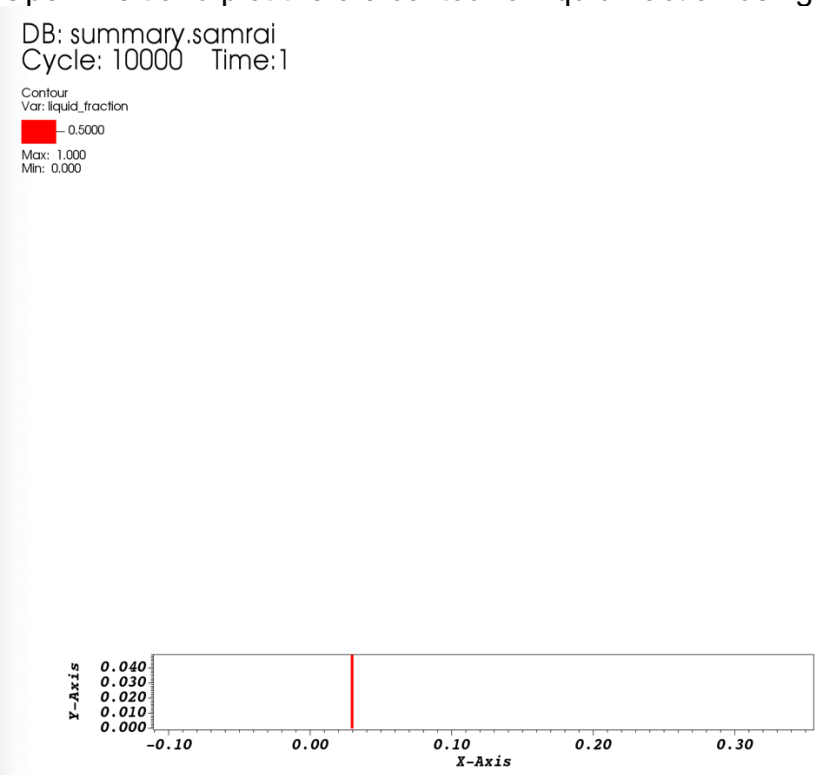
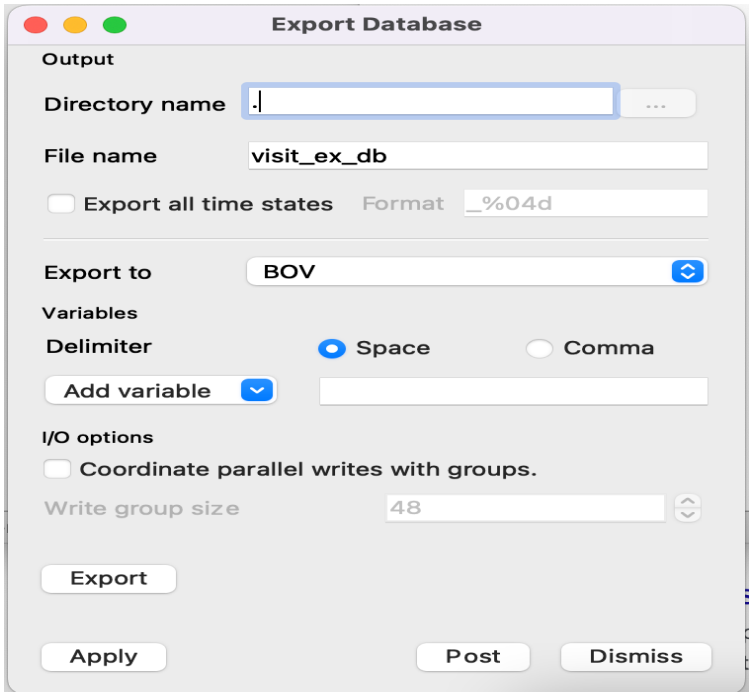
Instructions to export the interface position at different times from VisIt

1. Open VisIt and plot the 0.5 contour of liquid fraction using contour option



2. Go to File->export database. The following dialog box appears



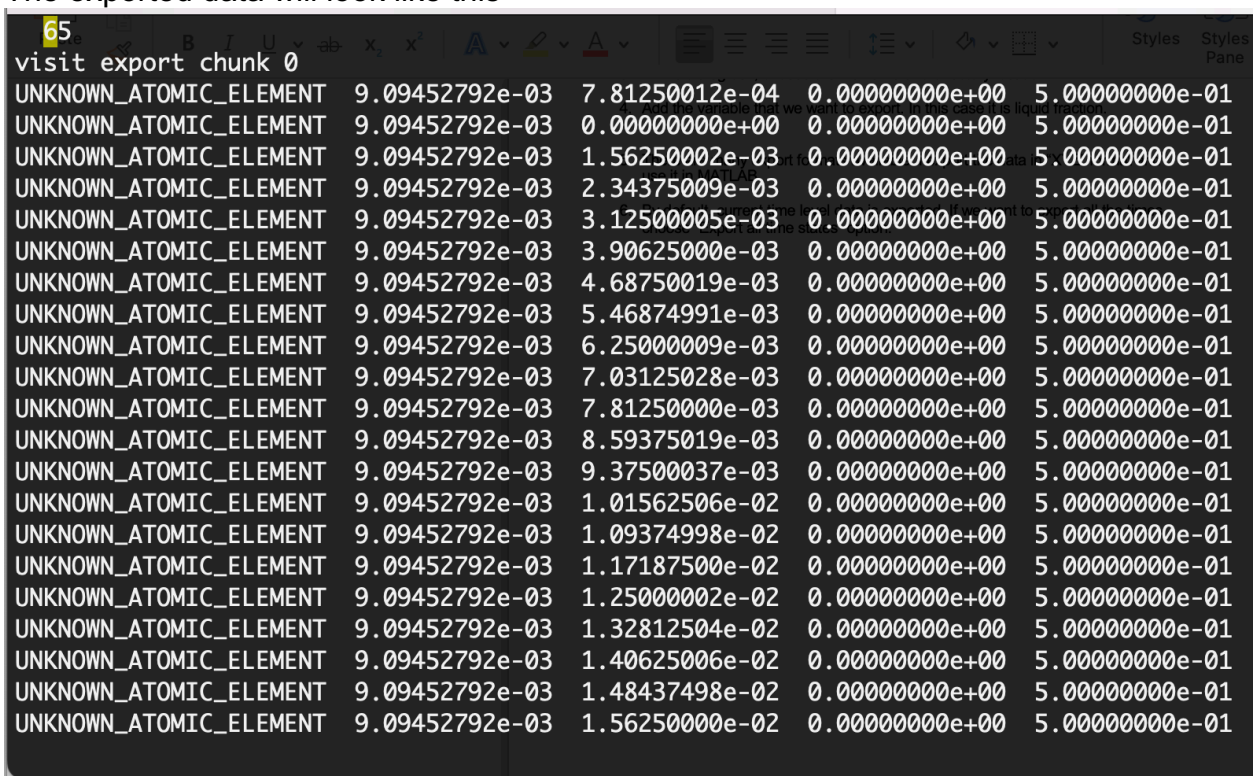
3. In this dialog box, choose the file name and directory location.

4. Add the variable that we want to export. In this case it is liquid fraction.

5. There are many export formats available. I export the data in “XYZ” format and use it in MATLAB.

6. By default, current time level data is exported. If we want to export all the times, choose “Export all time states” option.

The exported data will look like this



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65
visit export chunk 0
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  7.81250012e-04  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  0.00000000e+00  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.56250002e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  2.34375009e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  3.12500005e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  3.90625000e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  4.68750019e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  5.46874991e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  6.25000009e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  7.03125028e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  7.81250000e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  8.59375019e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  9.37500037e-03  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.01562506e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.09374998e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.17187500e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.25000002e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.32812504e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.40625006e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.48437498e-02  0.00000000e+00  5.00000000e-01
UNKNOWN_ATOMIC_ELEMENT  9.09452792e-03  1.56250000e-02  0.00000000e+00  5.00000000e-01
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You can see the x, y and z coordinates and the liquid fraction value in the exported file. This file cannot be read directly in the MATLAB because of the first two lines and the first column. I delete these lines using awk command in all files.

VisIt interpolates the liquid fraction values and find the 0.5 contour location. There are time instants where the VisIt fail to find the 0.5 contour. Those time instants can be skipped by editing “dumps.visit” file.