

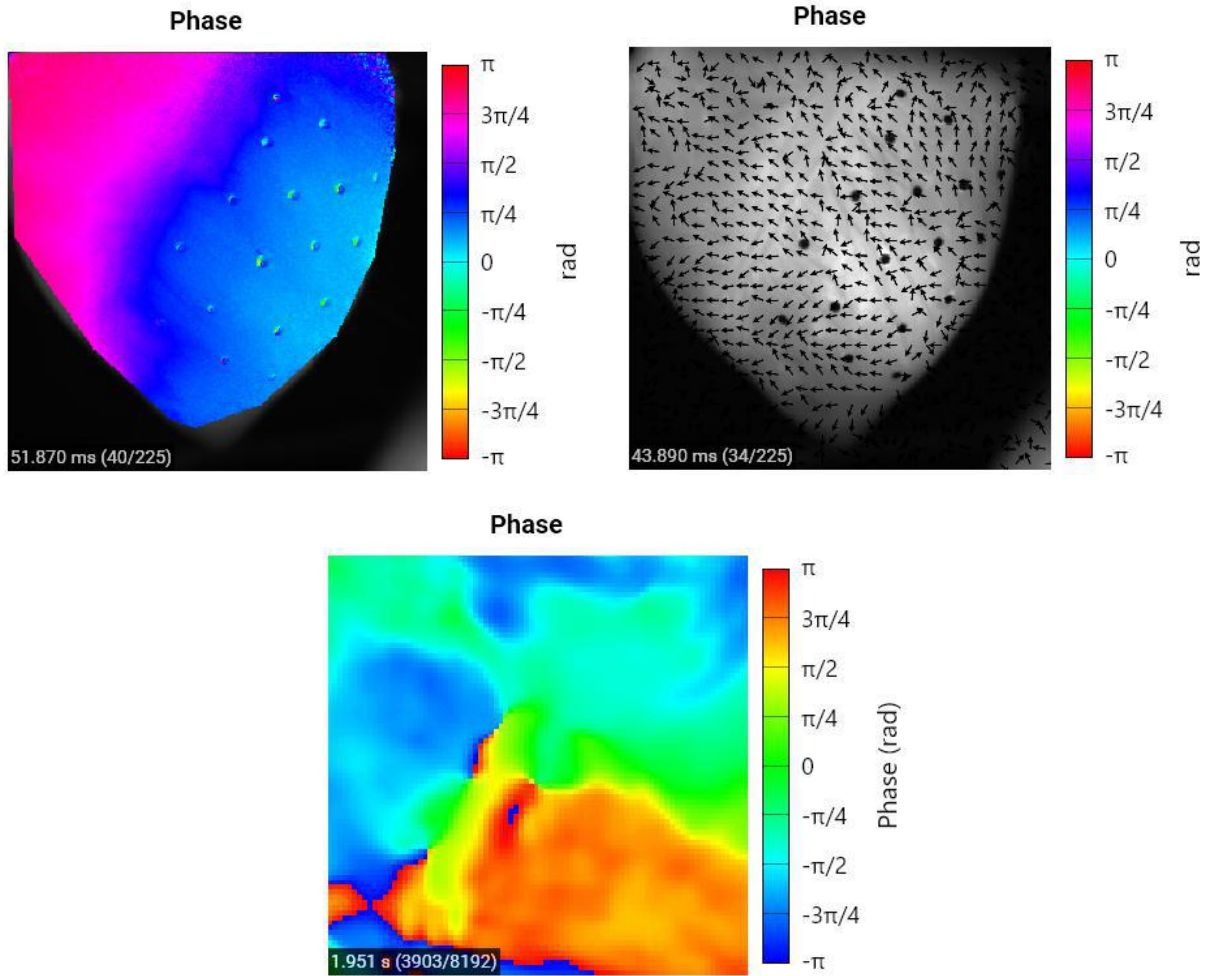
8-3-5. Phase analysis (add phase analysis layer)

Select [Analyze]-[Add phase analysis layer] to create and display a phase map.

Phase is calculated using formula below, where $x(t)$ is the input time signal, H the Hilbert transform and $z(t)$ a complex signal.

$$z(t) = x(t) + i[H(x(t))]$$

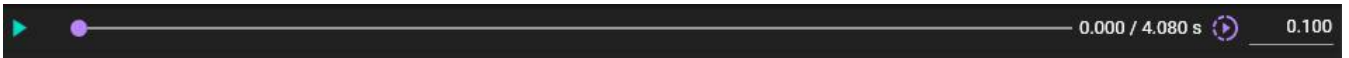
$$\phi(t) = \text{phase}(z(t))$$





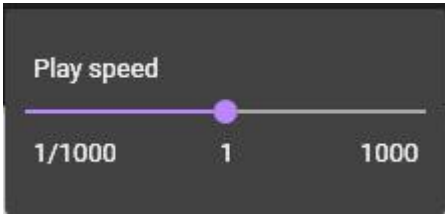




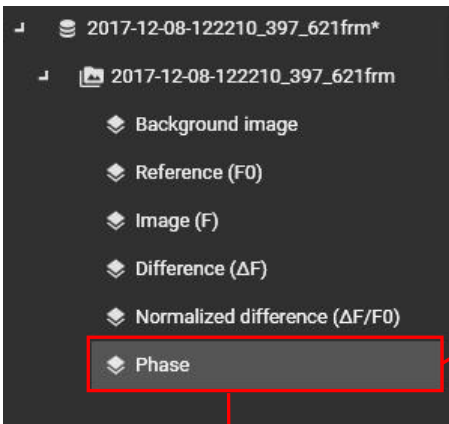
Operation	Description
Mouse over	Coordinates and phase of that point are displayed in upper left of map.
Scroll mouse wheel	Zoom in/out map
Right click	Export data: Save numerical data (phase) in CSV file format Export figure: Save phase map in image format (PNG/JPG/BMP) Export video: Save the phase map in video format (avi).

Video playback of phase map

It is also possible to display phase map as a movie.



	<p>Click to start playing video.</p>
	<p>Click to stop playing the video.</p>
	<p>Display frame position. Also, you can move frame position by dragging ● with mouse or clicking bar.</p>
	<p>Time of display frame and total time are displayed.</p>
	<p>Click  to display. Drag ● with mouse to specify video playback speed.</p>
	<p>Video playback speed is displayed. You can also specify video playback speed by inputting.</p>

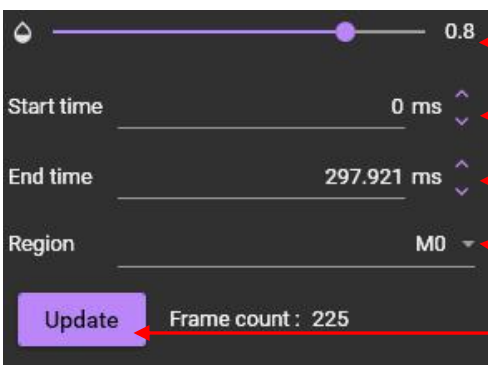


Right click

Export data: Save numerical data (phase) in CSV file format

Rename: Change title

Click "Phase" to display setting screen below at the bottom left of the screen



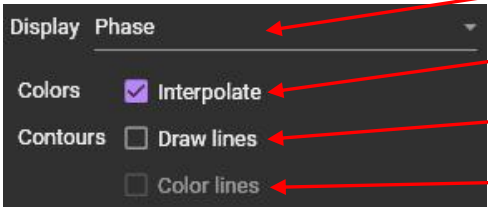
Specify the transparency of the layer. The lower it becomes, the more transparent the layer becomes

Specify start of analysis time range

Specify end of analysis time range

Select analysis target area (all pixels, ROI, mask layer)

It becomes active when "Star time", "End time", and "Region" are changed. Click to change the map display.

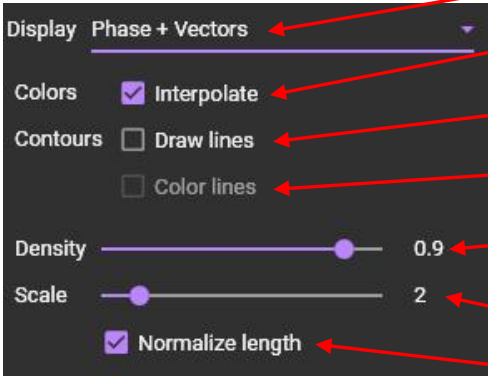


Display phase map only

When turned on, color display becomes gradation

Draw contour lines on map

Draw colored contour lines on a black and white background image to display the map



Display vector on phase map

When turned on, color display becomes gradation

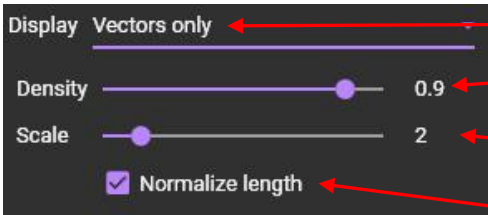
Draw contour lines on map

Draw colored contour lines on a black and white background image to display map

Set display density of vector

Set vector scale

Unify vector lengths



Display vector only

Set display density of vector

Set vector scale

Unify vector lengths