

1st stage: Forward propagation of source wavefield

do in time steps (forward)

 Propagate the source wavefield one time step;

 Scale the source function;

 Inject the source function;

end do

2nd stage: Backward propagation of receiver wavefield+scattering
and cross-correlation with backward propagated source wavefield

do in time steps (backward)

 Inject the data;

 Propagate receiver wavefield and source wavefield one time step;

 Scale source function;

 Re-inject the source function;

 Scale the receiver wavefield;

 Scatter the receiver wavefield;

 Propagate scattered receiver wavefield;

 Damp scattered receiver wavefield at the boundaries;

 WEMVA_receiver_side += xcorr(source wavefield, scattered receiver wavefield)

end do

3rd stage: Forward propagation of source wavefield+scattering
and cross-correlation with forward propagated receiver wavefield

do in time steps (forward)

 Re-inject the data;

 Propagate source wavefield and receiver wavefield one time step;

 Scale the receiver wavefield;

 Scale source function;

 Inject the source function;

 Damp source wavefield at the boundaries;

 Scale the source wavefield;

 Scatter the source wavefield;

 Propagate the scattered source wavefield;

 Damp scattered source wavefield at the boundaries;

 WEMVA_source_side += xcorr(receiver wavefield, scattered source wavefield)

end do