seismic waves that originate from the second seismic survey; receiving actual relative shooting timing of seismic sources of the first and second seismic surveys; said actual relative shooting timing being not calculated from said seismic data but known from the operators of the seismic surveys; applying a processing algorithm to the seismic data to calculate the interference noise, wherein the processing algorithm that takes into consideration the actual relative shooting timing of the seismic sources; and generating a final image of the subsurface based on the recorded seismic data from which the interference noise is subtracted.

**[0016]** Disclosed herein~~According to another exemplary embodiment, there~~ is a method for determining interference noise recorded in a first seismic survey of a subsurface generated by a source in a second seismic survey. The method includes receiving seismic data recorded by seismic sensors of the first seismic survey, wherein the seismic data includes seismic waves that originate from the first seismic survey and seismic waves that originate from the second seismic survey; receiving actual shooting timing and coordinates of seismic sources of the first and second seismic surveys; applying a processing algorithm to the seismic data to calculate the interference noise, wherein the processing algorithm that takes into consideration the actual shooting timing and the coordinates of the seismic sources; and generating a final image of the subsurface based on the recorded seismic data from which the interference noise is subtracted.

**[0017]** According to ~~still~~ another exemplary embodiment, there is a computing device for determining interference noise recorded in a first seismic survey of a subsurface generated by a source in a second seismic survey. The computing device includes an interface that receives seismic data recorded by seismic sensors of the first seismic survey, wherein the seismic data includes seismic waves that

originate from the first seismic survey and seismic waves that originate from the second seismic survey. The interface further receives actual relative shooting timing of seismic sources of the first and second seismic surveys; said actual relative shooting timing being not calculated from said seismic data but known from the operators of the seismic surveys. The computing device further includes a processor connected to the interface. The processor is configured to apply a processing algorithm to the seismic data to calculate the interference noise, wherein the processing algorithm that takes into consideration the actual relative shooting timing of the seismic sources, and generate a final image of the subsurface based on the recorded seismic data from which the interference noise is subtracted.

**[0018]** Disclosed herein~~According to still another exemplary embodiment, there~~ is a computer readable medium including computer executable instructions, wherein the instructions, when executed by a processor, implement a method for removing interference noise as noted above.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0019]** For a more complete understanding of the present invention, reference is now made to the following descriptions taken in conjunction with the accompanying drawings, in which:

**[0020]** Figure 1 illustrates recorded seismic data that includes interference noise;

**[0021]** Figure 2 illustrates a setup for first and second seismic surveys;

**[0022]** Figure 3 is a flow chart of a method for determining interference noise according to an exemplary embodiment;