

## ACQUISITION OF ACTIVE MULTICHANNEL ANALYSIS OF SURFACE WAVES (MASW) DATA IN KARST TERRAIN

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Multichannel Analysis of Surface Waves (MASW) is a non-destructive seismic surface wave method that is used for subsurface characterization using shear wave velocities. The shear wave velocities of near surface are of fundamental interest in many environmental and engineering studies. The knowledge of shear wave velocities is especially important for assessing sites in karst terrain with a complex topography.

In this study, Multichannel Analysis of Surface Waves (MASW), Electrical Resistivity Tomography (ERT) and bore hole data were acquired in southwestern Missouri with the goal of developing an optimum MASW array configuration that can be used to image subsurface in complex karst terrain. To accomplish the goal, the MASW data were collected using different array configurations. The qualitative and quantitative data analyses were performed.

As a result of the analyses, it was determined that 2.5ft receiver spacing and 10ft source offset of MASW array configuration is the most suitable to image the subsurface to a depth of approximately 30ft. With respect to the MASW array orientation, it was found that the MASW data acquired in N-S direction are of a better quality than those acquired in W-E direction.