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(54) Title: HIGH FIDELITY VIBRATORY SOURCE SEISMIC METHOD FOR USE IN VERTICAL SEISMIC PROFILE DATA GATHERING WITH A PLURALITY OF VIBRATORY SEISMIC ENERGY SOURCES ☒		
(57) Abstract A method for receiving and pre-processing vertical seismic profile high fidelity vibratory seismic data includes the steps of measuring the motion of the vibrator which is related to the vibrator applied force times a transfer function of minimum phase, causal, linear system relating the actual vibrator output with the measured vibrator motion (50), separating signals according to the generating source of each (52), determining a ratio by dividing the vibratory seismic data by the measured motion of the vibrator to remove the unknown applied force leaving the earth reflectivity times a time derivative divided by a minimum phase function (54), minimum phase band pass filtering the resulting ratio (56) and performing minimum phase deconvolution (58) to remove the time derivative divided by the transfer function of minimum phase. <pre> graph TD 50[RECEIVE DATA] --> 52[DATA SEPARATED] 52 --> 54[INVERSION] 54 --> 56[MIN. PHASE BANDPASS FILTER] 56 --> 58[MINIMUM PHASE DECONVOLUTION] 58 --> 60[DISPLAY] </pre>		