Phase analysis is based on the description of the heart motion periodicity by the first harmonic of the Fourier series. The resolution of the phase delay appears to be higher than the sampling interval in the original data. This presentation intends to show how wall motion abnormalities can be demonstrated using this characteristic of the computed phase delay. The principles of the method have been described by Bitter, et al and Deconinck, et al. For the 64 X 64 points in a 16 frame ECG gated study, the phase shift is computed from the sine and cosine coefficients of the first harmonic in the Fourier series. The phase shift values found over the left ventricle only are reexpanded to cover 120 time intervals. Static and cinematic inspection of the results was carried out. It was shown how the contraction patterns of the left ventricle could be better demonstrated in the patients with myocardial infarction, with the finer resolution than the one originally available in the 16 interval cycle. Also it was shown how the conduction patterns of the both ventricles could be better demonstrated in the patients with complete left bundle branch block and right ventricular pacing by the cinematic inspection.