Sarika Sudhakar Gattawar, Analysis of radial arterial pulse waveform, M. Tech. Thesis, Department of School of Biosciences & Bioengineering, Indian Institute of Technology Bombay, 2005.

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Abstract **-** Noninvasive recording of pressure pulse waveform from radial artery can be used for obtaining valuable diagnostic information, by analyzing it for temporal characteristics, spectral characteristics and its cross-correlation with other physiologically related waveforms. In this project, the pulse waveform was obtained by using a piezoelectric transducer. The effect of physical exercise on radial arterial pulse waveform is studied. Spectral analysis of radial arterial pulse waveform has been investigated using five spectral parameters: spectral energy ratio, harmonic distortion, log spectrum mean frequency, standard deviation, and normalized skewness. Further, pulse waveform has been cross-correlated with simultaneously recorded electrocardiogram, phonocardiogram, and photoplethysmogram in order to study the timing relationship between these waveforms. Finally, the correlation coefficients between pairs of these 12 parameters were computed and studied.