

Abstract Submitted
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Numerical Analysis of EKG Data¹ KELLY LOMAN, GUOPING ZHANG, Department of Chemistry and Physics, Indiana State University — We develop a method to computationally examine irregularities in the EKG data of a human's heart beat. Using a complete period of the heart's contraction and then release, a program was created to compare the healthy heart model's p-wave (x-axis) to a patient's p-wave (y-axis). While studying the p-waves, the need for an optimum width was noted in order to accurately analyze the standard p-wave and patient p-wave relationship. The width of the left and right shoulder of several p-waves in relation to their qrs-complexes was recorded and found to be very similar for individual patients. A code was created that found the p-wave via the qrs-complex using the width ranges that had been established. At this time, the code has been run for 60 seconds of patient data with great success.

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