## Abstract Submitted for the MAR08 Meeting of The American Physical Society

Fractal Hearts are Healthy Hearts—Are Fractal Companies Healthy Companies? BRONSON ARGYLE, GUS HART, Brigham Young University — Fractal analyses of cardiac rhythms have implied that healthy individuals have complex cardiac behavior whereas aged or unhealthy individuals show either more random or more periodic behavior. Does this marker of "complexity = health" show up elsewhere? Can this technique be used in other fields as well? Specifically, does a Detrended Fluctuation Analysis of S&P 500 bid prices reveal long range correlations in volatility, similar to those observed in cardiac interbeat intervals? If such correlations exist, measures of market complexity could be compared with individual securities to assess corporate strength and vitality.

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