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Time series as a diagnostic tool for EKG CAHIT ERKAL[1], The University of Tennessee, AYDIN CECEN[2], Central Michigan University — A preliminary analysis of heart rate variability (peak-to-peak intervals based on EKG) will be presented using the tools of nonlinear dynamics and chaos. We show that uncertainty determination of the most commonly used invariant-the correlation dimension- and a proper implementation of time series analysis tools are necessary to differentiate between the healthy and unhealthy state of the heart. We present an example analysis based on normal and atrial fibrillation EKGs and point of some pitfalls that may give rise to misleading conclusions.

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