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Proposed Time Dependent Model





Goodness-of-Fit of Multi-Fractal Model

For Both High and Low Blood Glucose Values:





Fractal vs. Non-Fractal Controller





Detailed multi-fractal analysis and modeling of blood





glucose dynamics

- Proposed an efficient (model parameters) estimation algorithm for the time dependent fractal model
- Developed the first optimal control algorithm of a time dependent fractal process
- Hardware implementation of time dependent fractal model predictive controller

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Future work

- **Correct pharmacokinetic models for insulin dynamics**
- Extend our time dependent fractal model predictive controller to address disease specific patterns



5th EE Annual Research Festival