9-6
Administration, overview of subject.
Problem of interpreting psychophysical experiments.
Subjective and objective experiments.
Rational decision making in the presence of uncertainty.

Reading
Assignment: “Notes on Decision Model ...” secs 1-3.
One interval experiments with two stimuli and two responses.
Receiver operating characteristics.
More complex one-interval experiments.
Confidence rating, category scaling, magnitude estimation
Two-Interval Experiments

9/17
Evidence for the Decision Model
\(d' = f(E, N_0, F, T, ...) = d' = f(F, T, ...) (E/N_0)\)
Shift-Densities
Gaussian Random Variables
Gaussian Models
Maximum Likelihood Parameter Estimation
Bias and variability of estimates
Estimation of decision model parameters.
PS1 due

9-24
Psychometric Functions
Adaptive Procedures (Class Discussion)
PS2 due

Reading
Discrimination of sound intensity.
Classical methods and results of Riesz.
Results of Pynn and Rabinowitz
Results of Wier, Jesteadt, and Green; of Viemeister

10-1
Identification Experiments
Magnitude Estimation
Preliminary Theory of Intensity Resolution.
PS3 due
MidTerm Paper Assignment distributed.

10-15
Intensity Perception II.
Intensity Perception V.
Intensity Perception IX.
Intensity Perception XI.
PS 4 Due
10-22 Effects of Range and Time on Discrimination
Intensity Perception IV.
Intensity Perception VII.
PS5 due

10-29 Theories of Loudness Matching
Intensity Perception VIII.
Intensity Perception X.
Zwislocki on Loudness Matching

11-5 Statistical Estimation Theory
Maximum Likelihood Ideal receivers (SKE).
Profile Analysis
Midterm Paper Due

11-12 Auditory Physiology
Poisson Processes description of auditory nerve patterns.
Excitation Patterns
PS 6 Due

11-19 Siebert’s model of auditory nerve firing patterns
Psychophysical predictions of Siebert’s model.
Intensity and frequency discrimination.
PS 7 Due

11-26 Class discussion of paper: Colburn, IP XV.
Class discussion of Siebert on frequency discrimination
Term Paper Assignment distributed.

12-3 Class discussion of paper: Goldstein.
Class discussion of paper: Houtsma and Goldstein.
PS 8 Due

12-10 TBA
Term Paper Due