Concentration Inequalities, Oracles, and Applications

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Outline: Week 6
1) Suprema of Gaussian processes in continuous time; continuity of sample paths and boundedness;
2) Sufficient conditions for continuity in the compact case;
3) Conditions for boundedness; the condition of Landau and Shepp;
4) Definition of metric entropy; statement of metric entropy condition;
5) Continuity, boundedness, and concrete bounds on the expectation of the supremum under metric entropy condition;
6) The stationary time series case; behavior of the maximum.