TCI SEMINAR

Zwanzig-Mori Projection Operators and EEG Dynamics: Deriving a Simple Equation of Motion

Friday,
April 17, 2009

2:00 p.m.
Room 8335

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Brain waves from electroencephalograms (EEG) have intrigued researchers ever since they were first discovered. There are many ways of analyzing and interpreting such data, but a rigorous theoretical foundation for macroscopic EEG dynamics has not yet been formulated. We show that Zwanzig–Mori projection operators can be used to derive a simple macroscopic equation of motion that requires knowledge only of macroscopic properties. These macroscopic properties can be extracted from experimental data by one of two possible variational principles. Potential applications are discussed, including applications to the theory of critical phenomena in the brain and the study of epileptogenesis.

Theoretical Chemistry Institute Seminar Series