Ergodicity, continuity, differentiability.

see Ergo_Cnt. doc.

Empirical mean:

\[
\frac{1}{T} \int_{T/2}^{T/2} X(t) \, dt
\]
EMPIRICAL AUTOCORRELATION

\[ \frac{1}{T} \int_{-T/2}^{T/2} x(t) x(t+\tau) \, dt \]

This is too expensive to compute, for every \( \tau \),
It resembles convolution, which can be
computed rapidly with FFT's. See

Four p1.jpg -> Four p5.jpg.