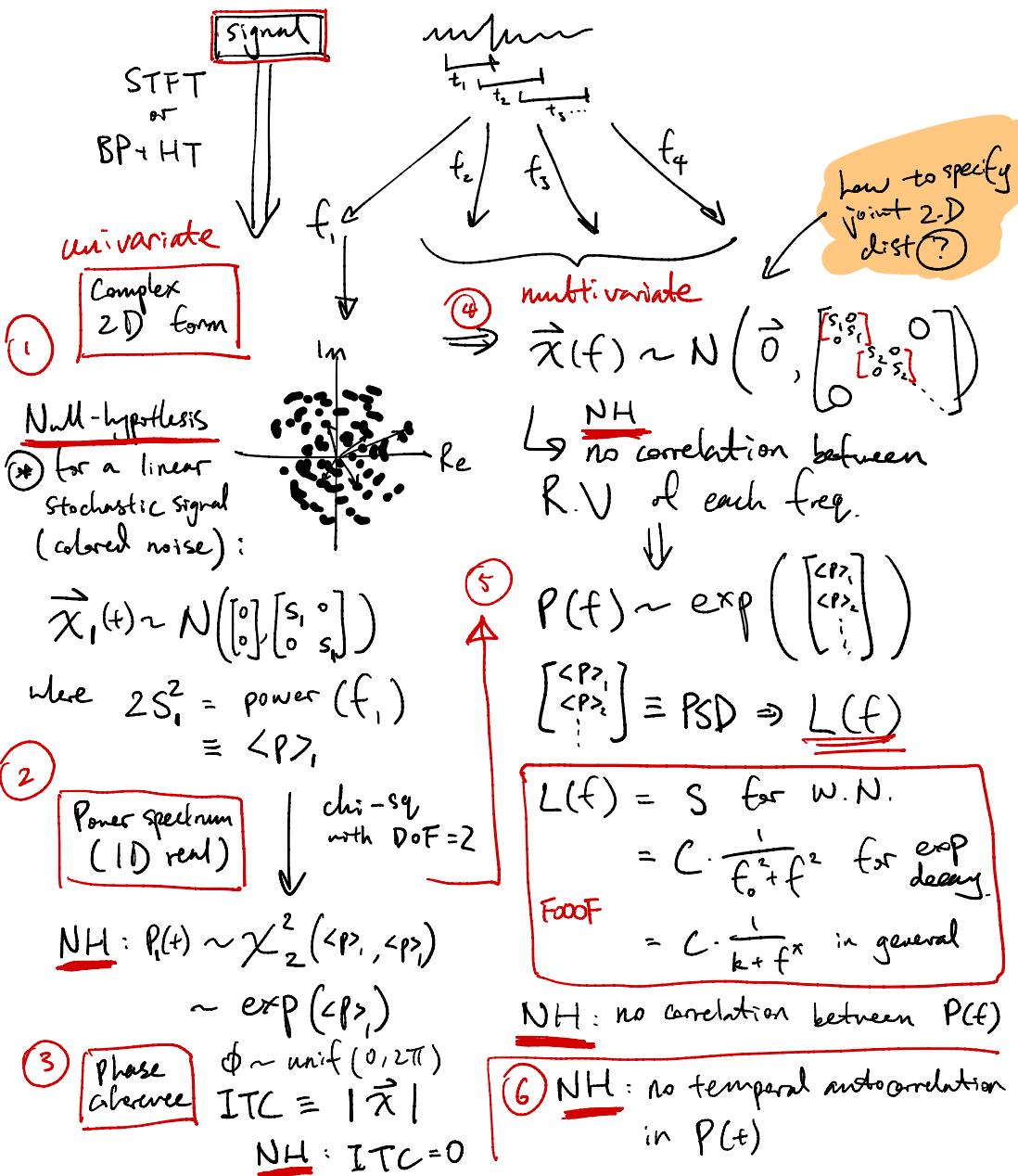


SCA plans

June 16, 2020



\Rightarrow oscillations (or other temporal dynamics) is defined as the failure of those NH. [June 17]

- 1: Compute non-parametric summary stats:
②: $M_p = \bar{P}_p \Rightarrow CV=1 \rightarrow SCV$ | skew & higher order?
- 2: compute goodness of fit:
KS-test or likelihood of data under: [account for sample size]
 $N(0, [\delta_s])$ for ① } failure:
 $\exp(-\rho_p)$ for ② } power deviation or
 $\text{unif}(0, 2\pi)$ for ③ } phase preference.
→ $N(0, [\delta_s])$ for scrambled phase. ④ due to constant STFT step length.

3. fitting individual parametric distributions to subset of the data to maximize likelihood / KS, and detect out-of-dist samples as events & assign sample likelihood.
① & ② \Rightarrow detect $P(t)$ outside of NH.

- 4: detect correlation structure across freq.
quantile spectrum: $\langle P \rangle(f) \mid \langle \rho_p \rangle_f^*$ ② & ⑤
corr-mat & spectral PCA (KJM)

- 5: jointly fit pdf & $L(f)$ [Bayesian FOOOF]

- 6: characterize temporal AC
 \rightarrow AC, PSD, DFA, etc.
- control params:

 - filter settings
 - STFT win / step length
 - window type