Službeni podsjetnik za Teoriju estimacije

Fourierova transformacija

$$F(j\omega) = \int_{-\infty}^{\infty} f(t)e^{-j\omega t}\mathrm{d}t$$

$$f(t) = \frac{1}{2\pi}\int_{-\infty}^{\infty} F(j\omega)e^{j\omega t}\mathrm{d}\omega$$

Međukorelacijska funkcija

$$R_{x_1,x_2}(\tau) = \lim_{T\to\infty}\frac{1}{2T}\int_{-T}^{T} x_1(t)x_2(t+\tau)\mathrm{d}t$$

Nerekurzivni LS estimator

$$\hat{\Theta} = \hat{\Theta}(N) = \left[\Phi^T(N)\Phi(N)\right]^{-1}\Phi^T(N)Y(N)$$

Rekurzivni LS estimator

$$\begin{aligned}
\hat{\varepsilon}(k+1) &= y(k+1) - \varphi^T(k+1)\hat{\Theta}(k)\\
\hat{\Theta}(k+1) &= \hat{\Theta}(k) + q(k+1)\hat{\varepsilon}(k+1)\\
q(k+1) &= P(k)\varphi(k+1)\left[1+\varphi^T(k+1)P(k)\varphi(k+1)\right]^{-1}\\
P(k+1) &= P(k) - q(k+1)\varphi^T(k+1)P(k)
\end{aligned}$$