přizpůsobený filtr

$$V_n = \frac{\langle s_n | g \rangle}{\sqrt{\langle s_n | s_n \rangle}}$$

k-tý signál $g = s_k$ na vstupu

$$|V_n|^2 = \frac{|\langle s_n | s_k \rangle|^2}{\langle s_n | s_n \rangle} \leq \frac{\langle s_n | s_n \rangle \langle s_k | s_k \rangle}{\langle s_n | s_n \rangle}$$

$$= \langle s_k | s_k \rangle = \frac{\langle s_k | s_k \rangle^2}{\langle s_k | s_k \rangle} = |V_k|^2$$

souvislost mezi $s^*(-x)$ a S^*

$$\int_{-\infty}^{\infty} s^*(-x)\, e^{-i 2\pi f_x x}\, dx = \int_{-\infty}^{\infty} s^*(x)\, e^{i 2\pi f_x x}\, dx$$

$$= \left(\int_{-\infty}^{\infty} s(x)\, e^{-i 2\pi f_x x}\, dx \right)^* = S^*(f_x)$$

naopak

$$\int_{-\infty}^{\infty} S^*(f_x)\, e^{i 2\pi f_x x}\, df_x = \left(\int_{-\infty}^{\infty} S(f_x)\, e^{-i 2\pi f_x x}\, df_x \right)^*$$

$$= \left(\int_{-\infty}^{\infty} S(f_x)\, e^{i 2\pi f_x (-x)}\, df_x \right)^*$$

$$= s^*(-x)$$