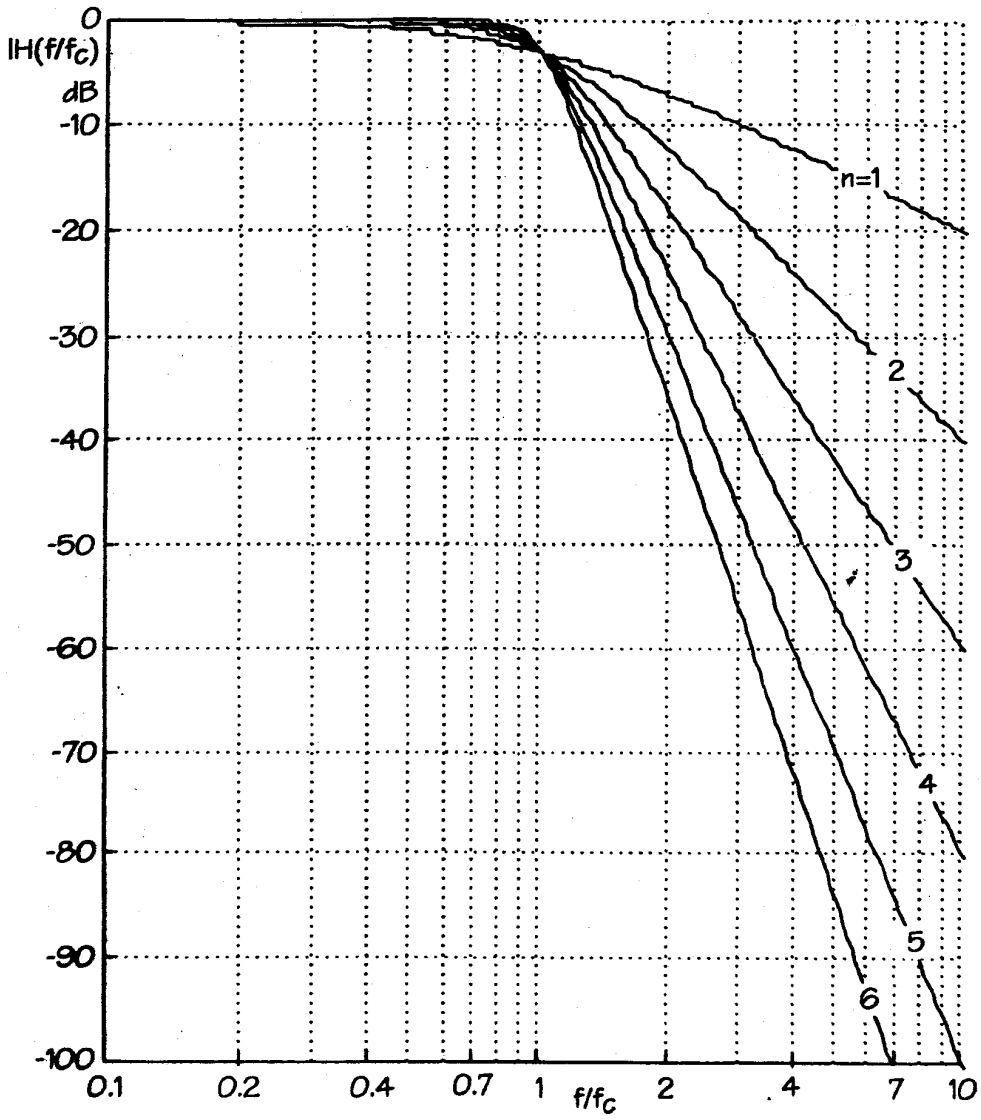

Fig. 11.5-6–Normalized curves for Butterworth filter

n=1	$(s/2\pi f_c)+1$
2	$(s/2\pi f_c)^2+1.414(s/2\pi f_c)+1$
3	$\left[(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+(s/2\pi f_c)+1\right]$
4	$\left[(s/2\pi f_c)^2+0.7654(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+1.848(s/2\pi f_c)+1\right]$
5	$\left[(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+0.6180(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+1.618(s/2\pi f_c)+1\right]$
6	$\left[(s/2\pi f_c)^2+0.5176(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+1.414(s/2\pi f_c)+1\right]\left[(s/2\pi f_c)^2+1.932(s/2\pi f_c)+1\right]$

Fig. 11.5-7–Butterworth denominators

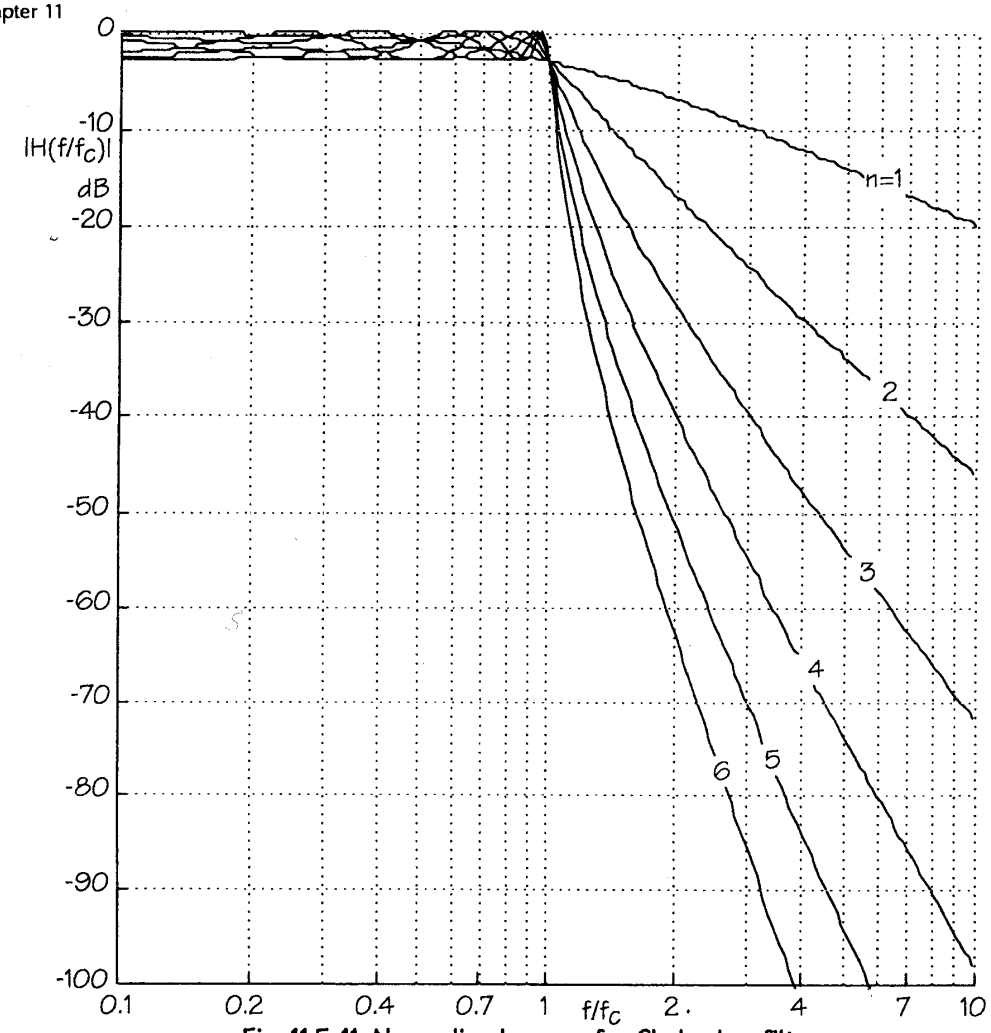

Fig. 11.5-11–Normalized curves for Chebychev filter

n=1	$(s/2\pi f_c)+1$
2	$(s/(0.8409\times 2\pi f_c))^2+0.7654(s/(0.8409\times 2\pi f_c))+1$
3	$[(s/(0.2980\times 2\pi f_c))+1][(s/(0.9159\times 2\pi f_c))^2+0.3254(s/(0.9159\times 2\pi f_c))+1]$
4	$[(s/(0.9502\times 2\pi f_c))^2+0.1789(s/(0.9502\times 2\pi f_c))+1][(s/(0.4425\times 2\pi f_c))^2+0.9276(s/(0.4425\times 2\pi f_c))+1]$
5	$[(s/(0.1772\times 2\pi f_c))+1][(s/(0.9674\times 2\pi f_c))^2+0.1132(s/(0.9674\times 2\pi f_c))+1]$ $[(s/(0.6139\times 2\pi f_c))^2+0.4670(s/(0.6139\times 2\pi f_c))+1]$
6	$[(s/(0.9771\times 2\pi f_c))^2+0.0781(s/(0.9771\times 2\pi f_c))+1][(s/(0.7223\times 2\pi f_c))^2+0.2886(s/(0.7223\times 2\pi f_c))+1]$ $[(s/(0.2978\times 2\pi f_c))^2+0.9562(s/(0.2978\times 2\pi f_c))+1]$

Fig. 11.5-12–Chebychev denominators