第六周作业

第六章 频率特性分析法 习题六

6-11、6-12、6-15、6-16

6-11 The logarithmic amplitude-frequency asymptotic characteristic curve of the open-loop transfer function of the hypothetical unit negative feedback system is shown in Figure 6-72.

(1) Determine the open-loop transfer function of the system (assuming only first-order links).

(2) Calculate the frequency and phase when $|G(jw)| = 1$.

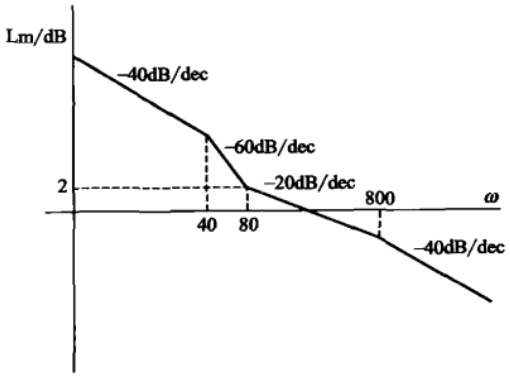

Figure 6-72

6-12 The logarithmic amplitude-frequency asymptotic characteristic curves of the open-loop system are shown in Figure 6-73, respectively.

(1) Determine the open-loop transfer function of the system.

(2) Calculate the deviation of the asymptotic characteristic curve at $w = 4$ points from the true value.

(3) Calculate the steady-state error coefficient of the system (assuming only first-order links).

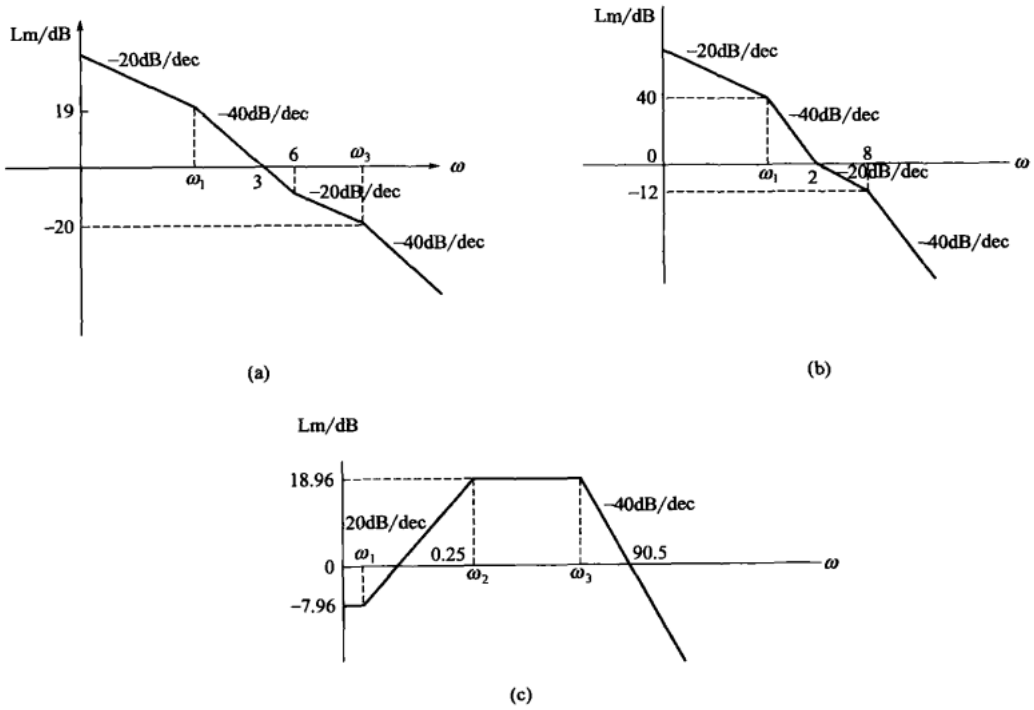

Figure 6-73

6-15 The approximate logarithmic amplitude-frequency characteristics of the known minimum phase system are shown in Figure 6-76, try to find the transfer function of the system.

	ω	$\lvert G\rvert$
A	0. 1	1. 25
B	0. 2	5
C	0. 5	5
D	2. 5	1
E	25	10

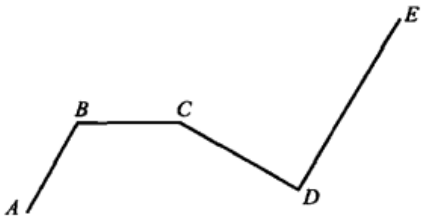

Figure 6-76

6-16 The logarithmic amplitude-frequency asymptotic characteristic curve of the minimum phase system is shown in Figure 6-77, try to determine the open-loop transfer function of the system.

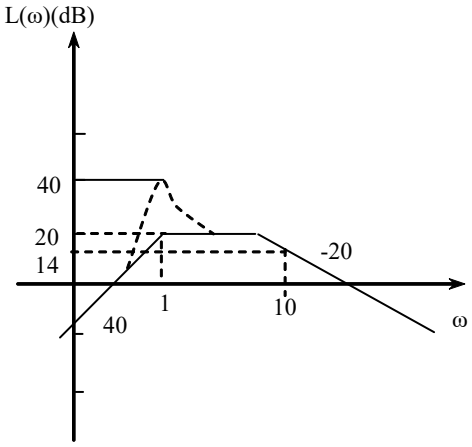

Figure 6-77