

**Quarto test di autovalutazione di CONTROLLI AUTOMATICI
A.A. 2009/2010**

Data: 5 Novembre 2009

1. Si traccino i diagrammi di Bode (reali e asintotici) delle seguenti funzioni di trasferimento (ogni domanda vale 4 punti):

(a) $W(s) = \frac{s+1}{s(s+100)}$;

(b) $W(s) = \frac{s}{s^2-10}$;

(c) $W(s) = \frac{(10-s)s}{(s+1)^2}$;

(d) $W(s) = 20 \frac{s^2+1}{s(s+100)}$;

(e) $W(s) = -\frac{s-100}{s(s^2+0.1s+1)}$;

(f) $W(s) = \frac{s^2+2s+10}{(s-10)(s+10)}$;

(g) $W(s) = \frac{s+100}{s^2+0.25s+1}$;

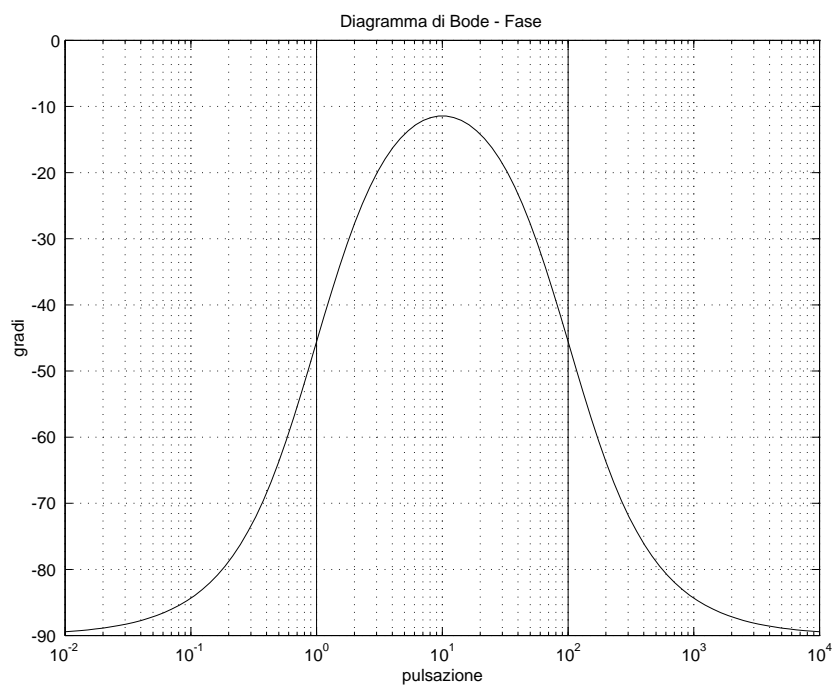
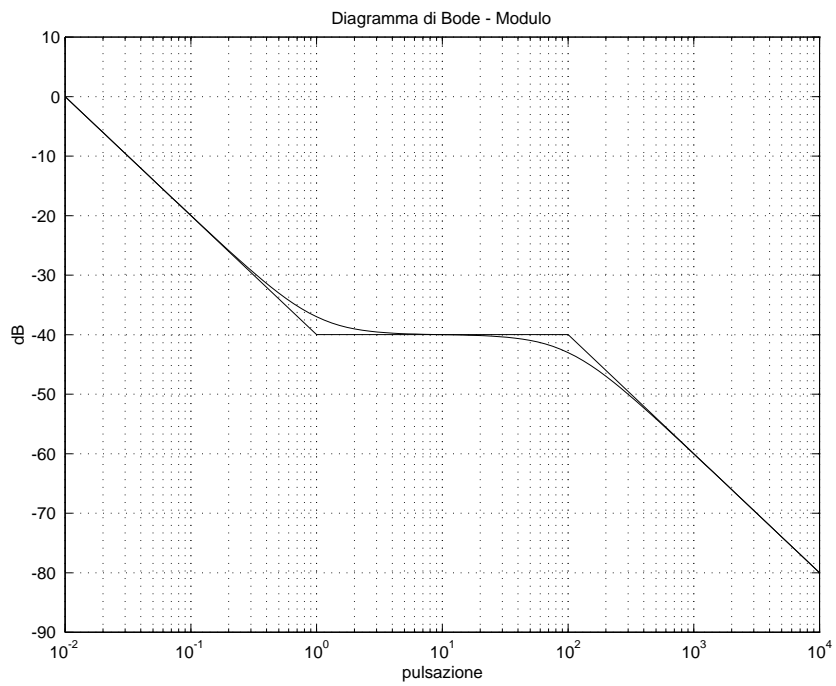
(h) $W(s) = \frac{s(s+1)}{s^2-0.01s+1}$;

(i) $W(s) = \frac{(s+10)^2}{s^2+10}$.

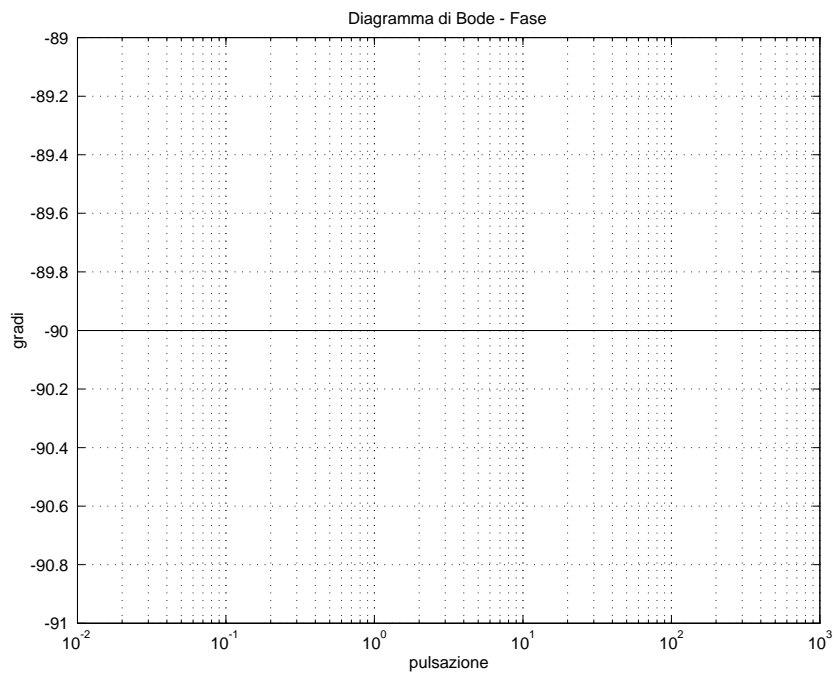
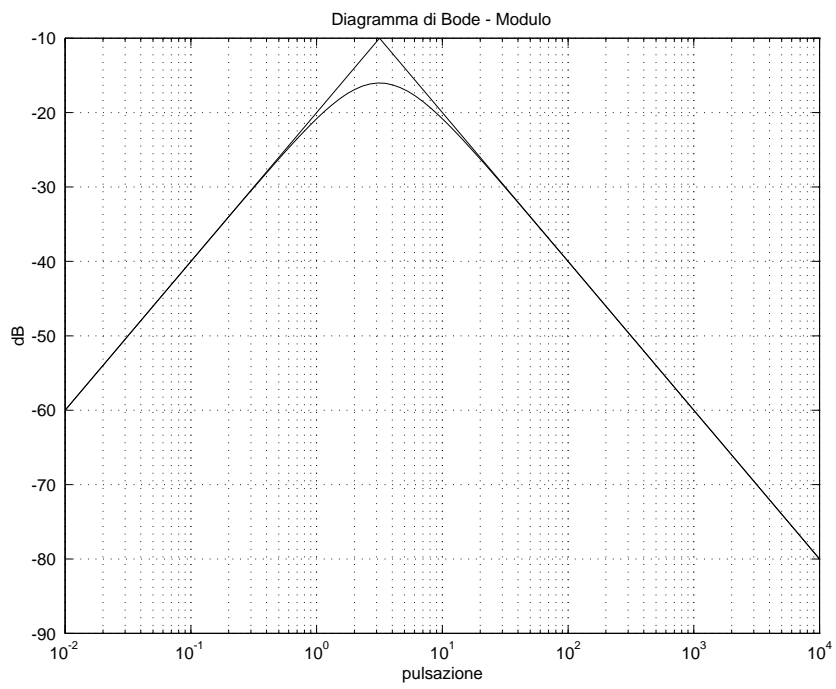
RISPOSTE

1. Diagrammi di Bode:

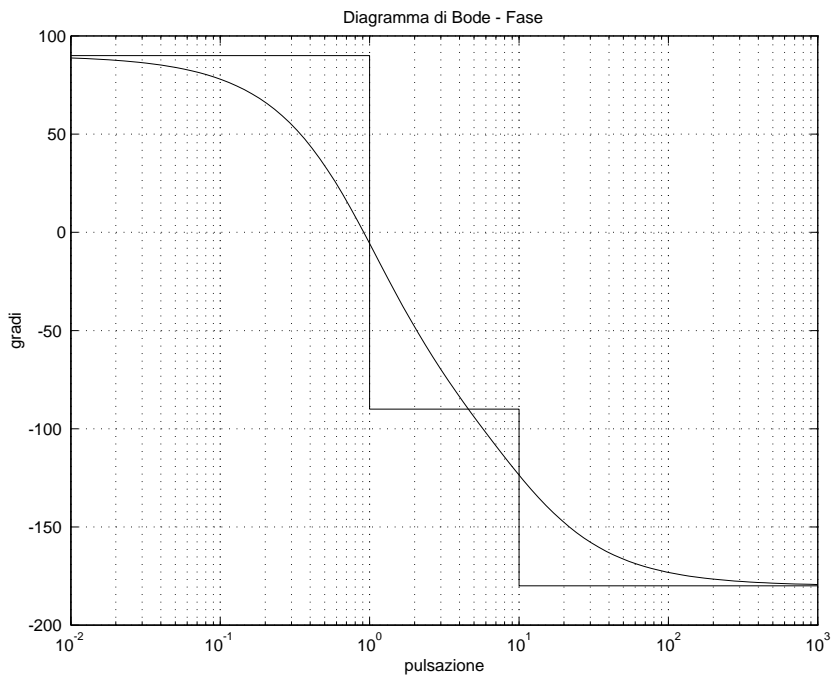
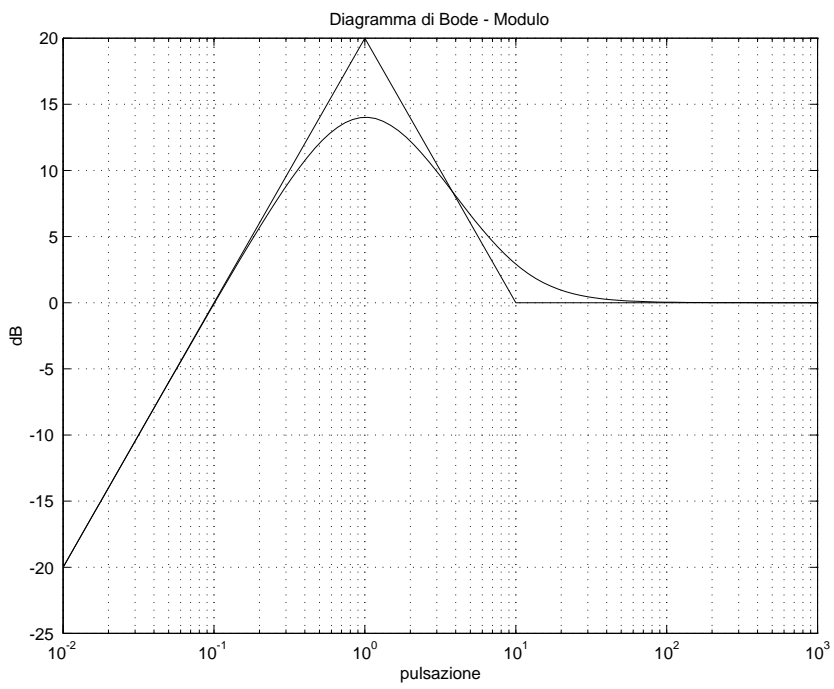
(a)



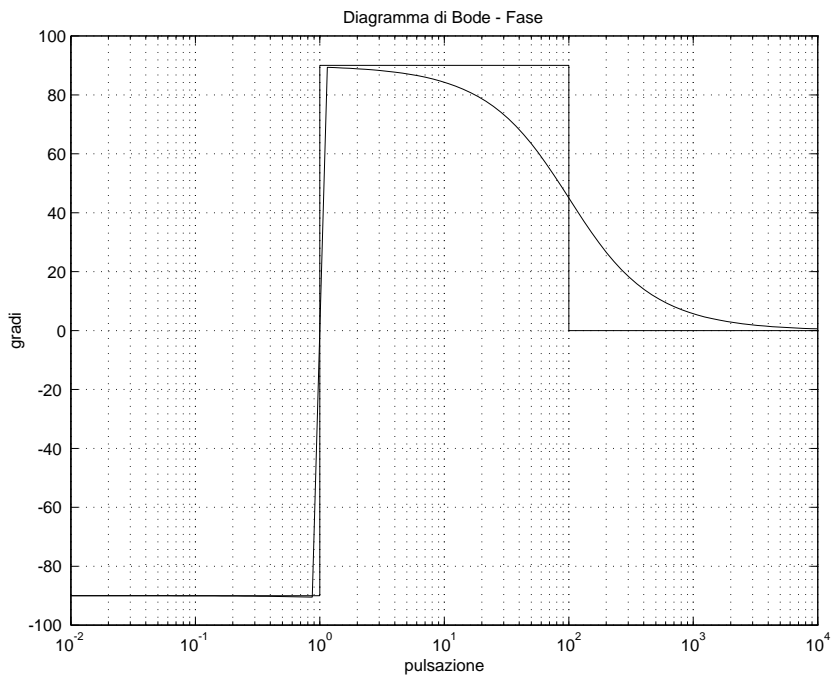
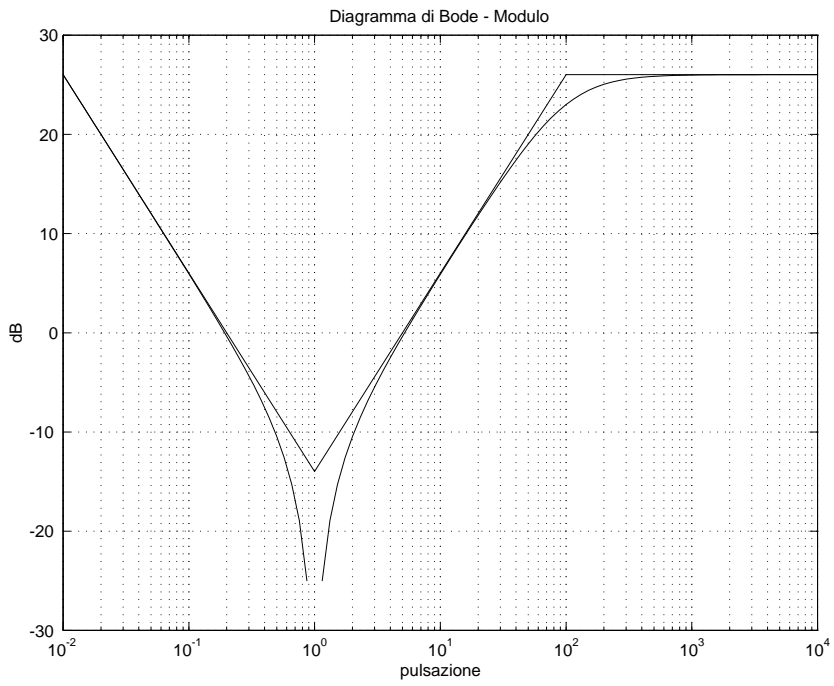
(b)



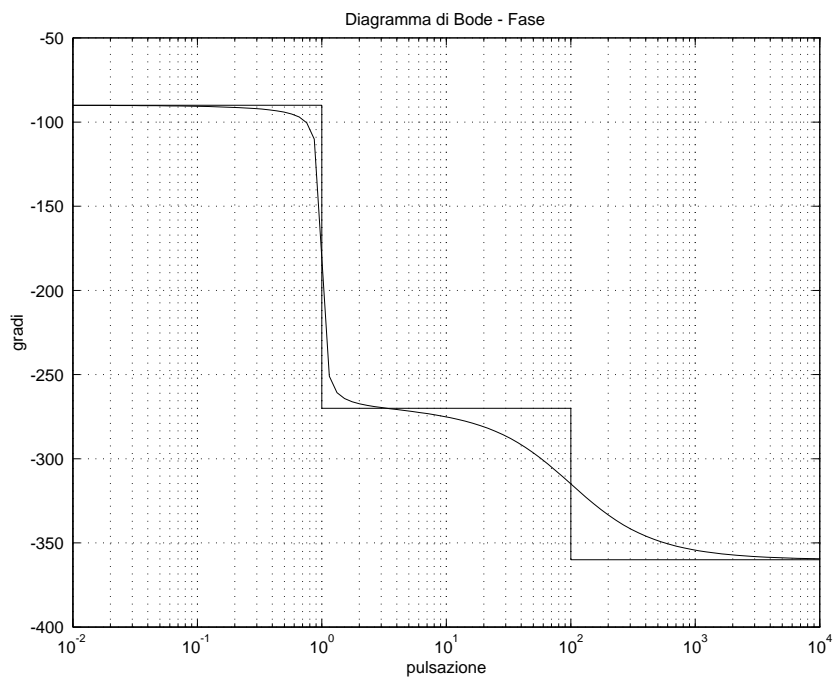
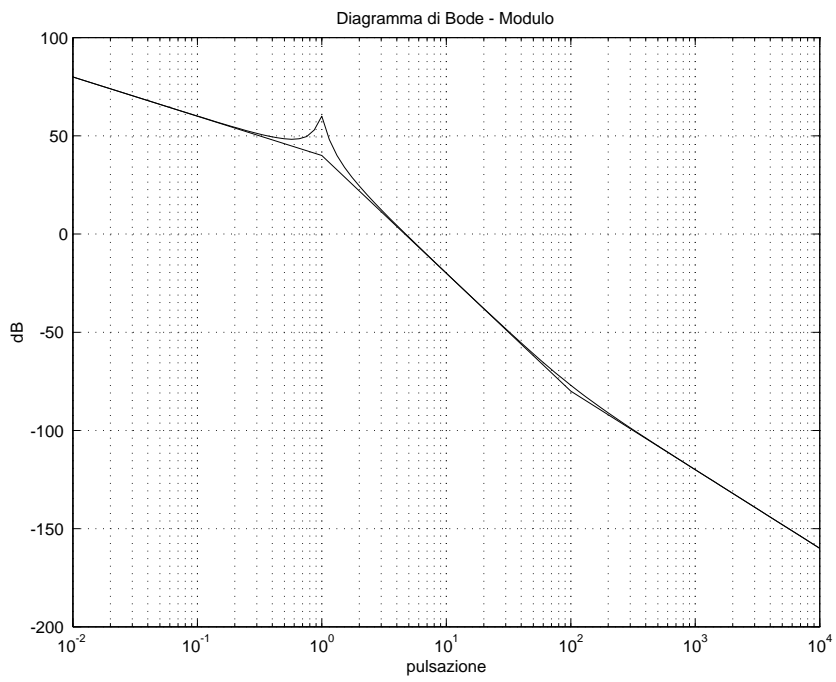
(c)



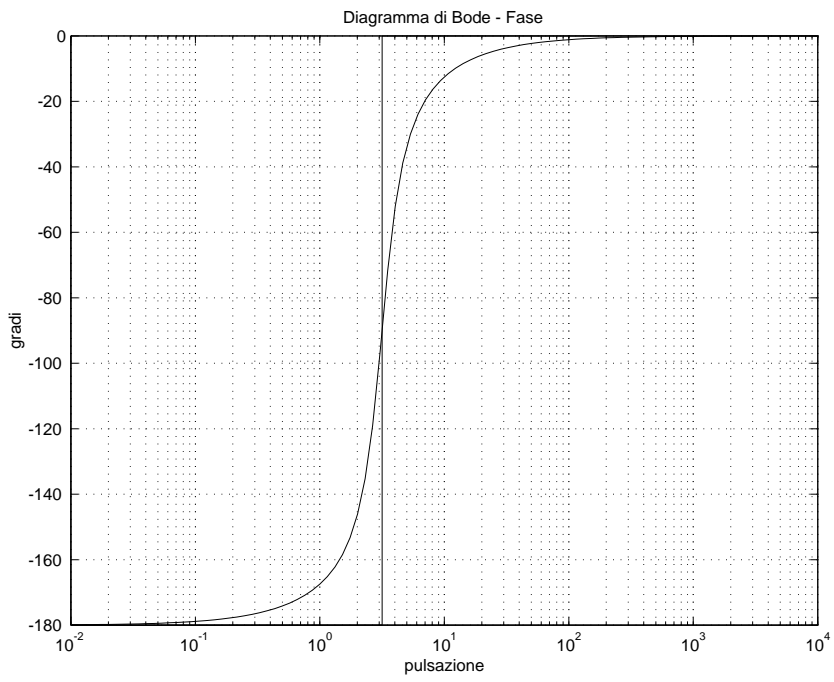
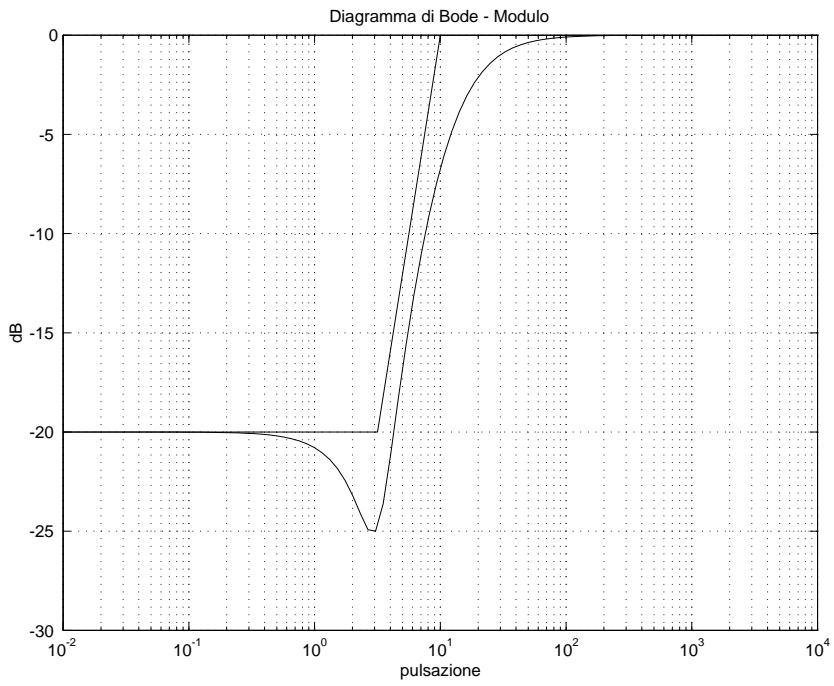
(d)



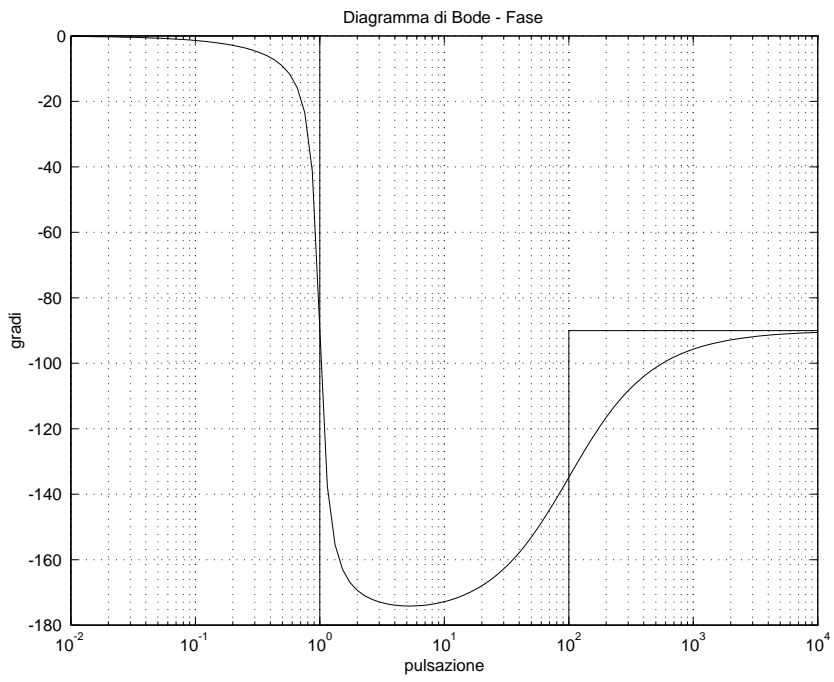
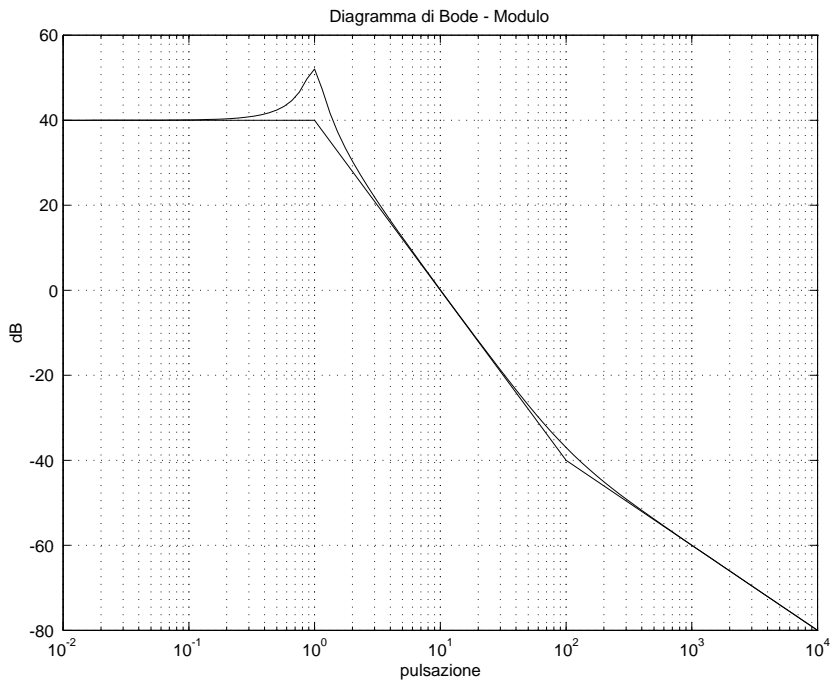
(e)



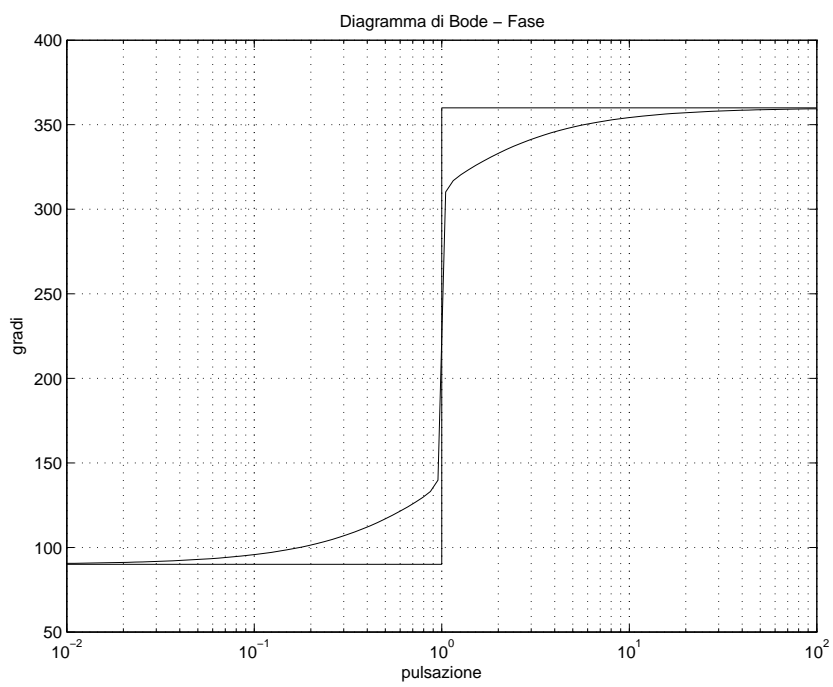
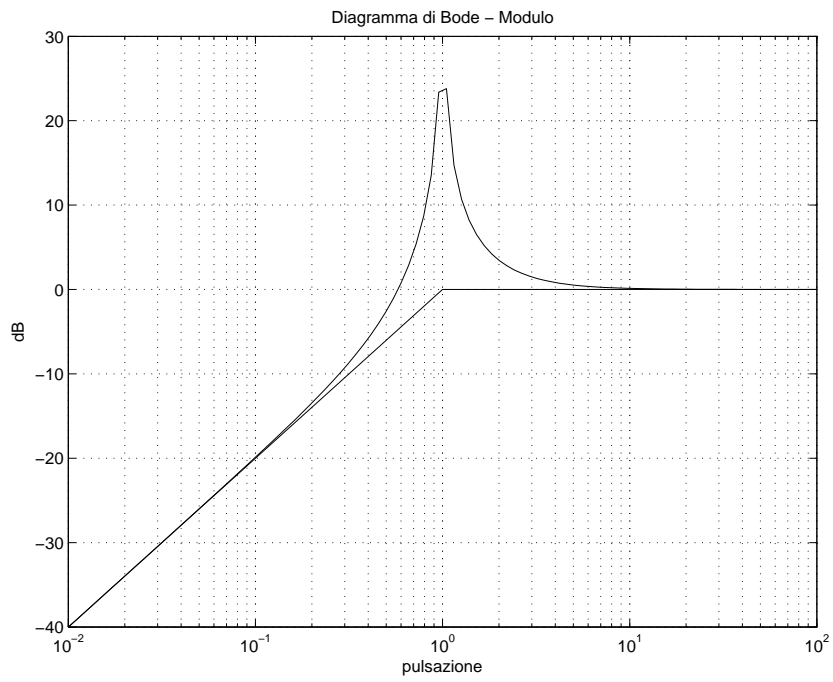
(f)



(g)



(h)



(i)

