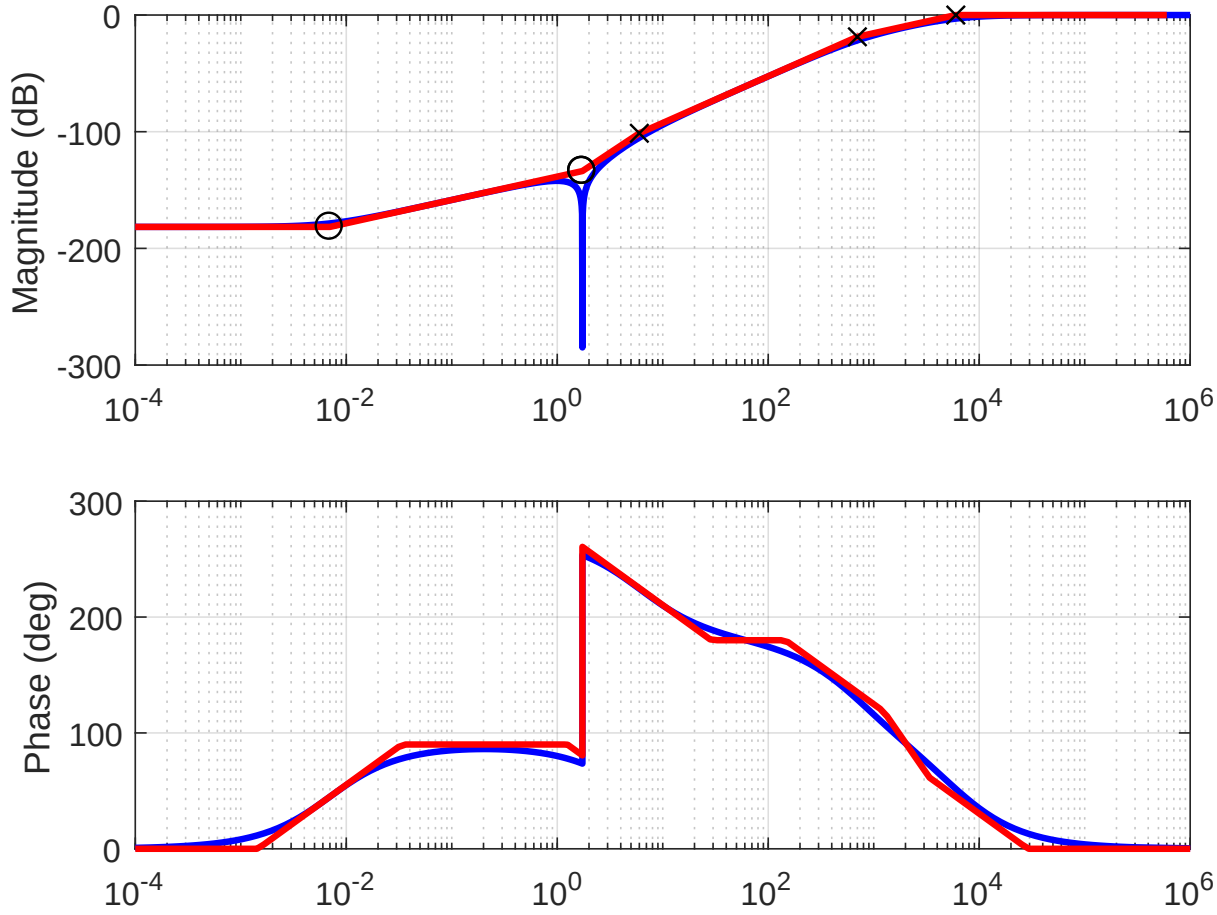
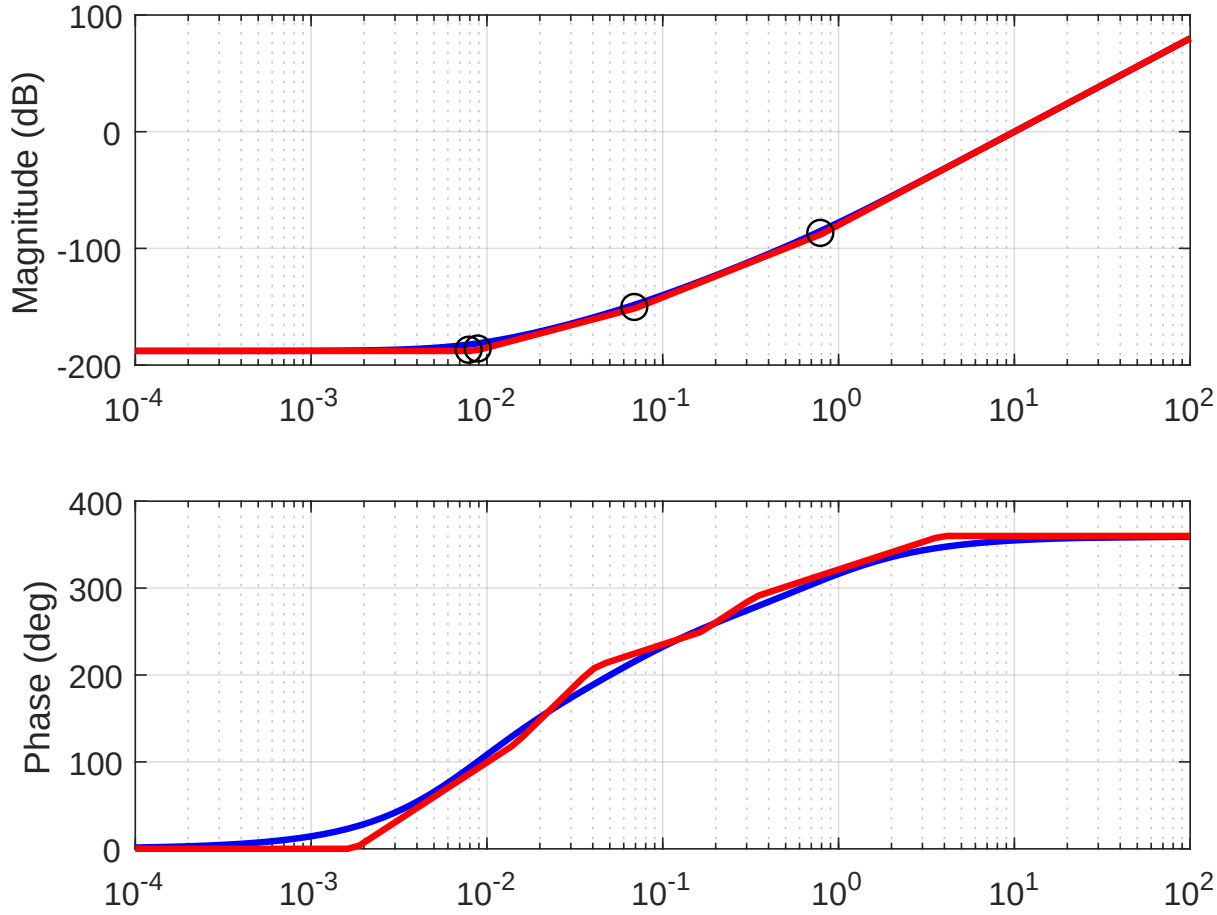
January 7, 2018

1 Esercizi Bode



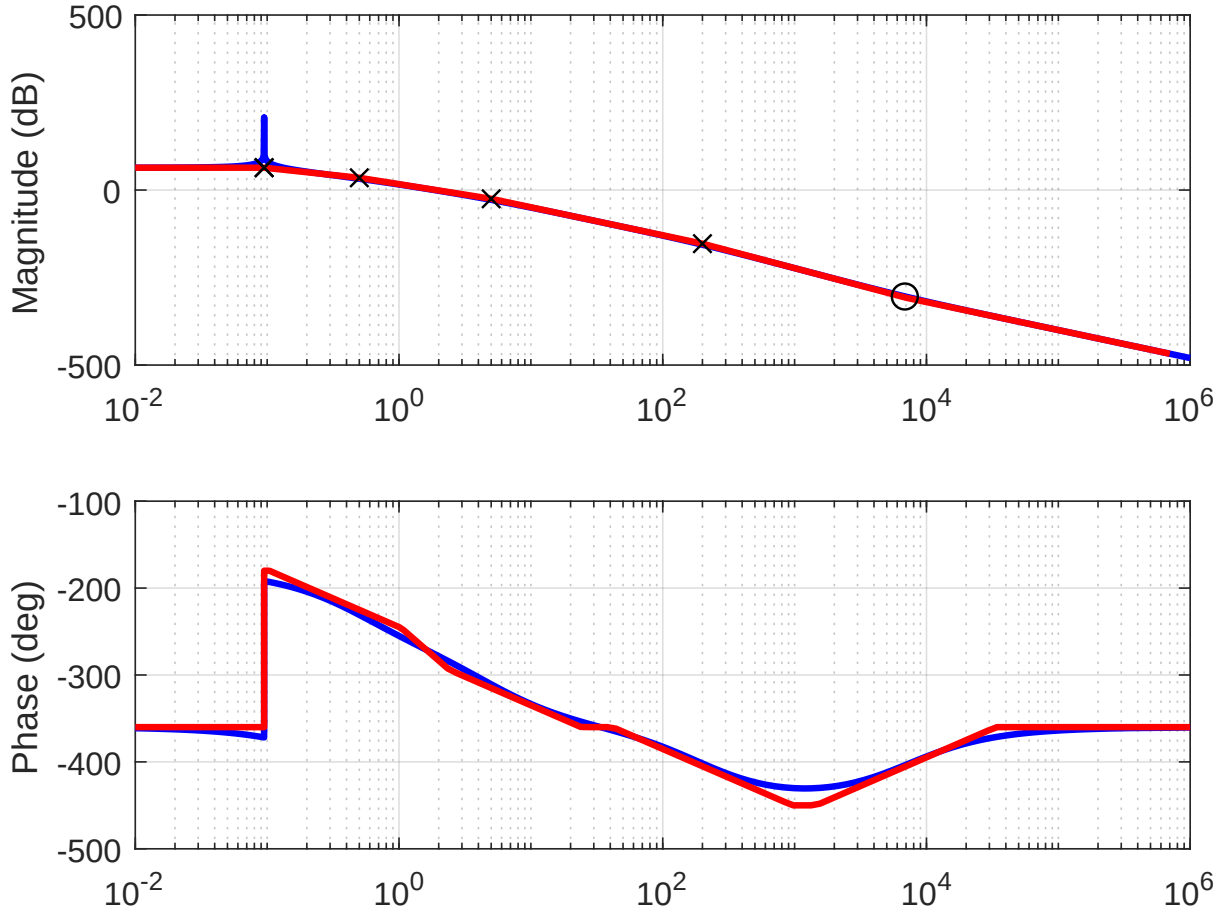
Domanda 1 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+2)\left(s+\frac{3}{5}\right)\left(s+\frac{3}{100}\right)\left(s+\frac{1}{500}\right)}{s+800}$.
- ☐ $F(s) = \frac{\left(s^2+9\right)\left(s^2+200\right)(s+900)\left(s+\frac{7}{1000}\right)}{s^2+10}$.
- ☐ $F(s) = \frac{\left(s+\frac{1}{10}\right)\left(s+\frac{1}{25}\right)(s+40)}{\left(s^2+1\right)(s+700)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{20}\right)(s+1)\left(s+\frac{1}{50}\right)}{\left(s^2+\frac{3}{100}\right)(s^2+300)}$.
- ☐ $F(s) = \frac{\left(s^2+3\right)\left(s+\frac{7}{1000}\right)}{(s+6)(s+700)(s+6000)}$.



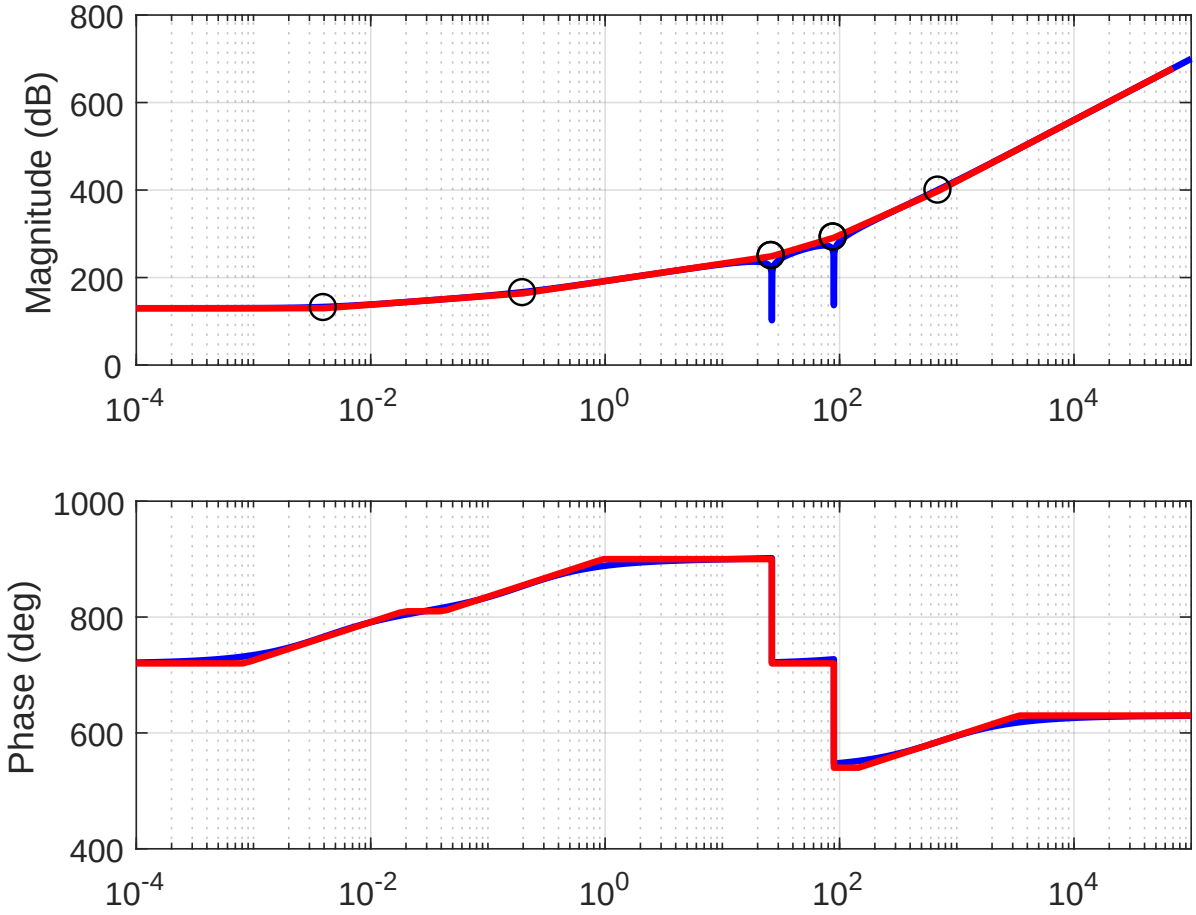
Domanda 2 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+6)\,(s+4000)\,(s+8000)}{\left(s+\frac{3}{5}\right)(s+20)}$.
- ☐ $F(s) = \frac{\left(s+\frac{4}{5}\right)\left(s+\frac{7}{100}\right)\left(s+\frac{1}{125}\right)\left(s+\frac{9}{1000}\right)}{s+10000}$.
- ☐ $F(s) = \frac{\left(s^2+6\right)\left(s^2+\frac{9}{1000}\right)(s+400)\,(s+8000)}{s^2+1}$.
- ☐ $F(s) = \frac{s^2+100}{(s^2+6000)\,(s+1)\left(s+\frac{2}{25}\right)(s+800)}$.
- ☐ $F(s) = \frac{\left(s^2+60\right)\left(s^2+\frac{3}{500}\right)\left(s+\frac{1}{200}\right)(s+500)}{s+\frac{3}{50}}$.



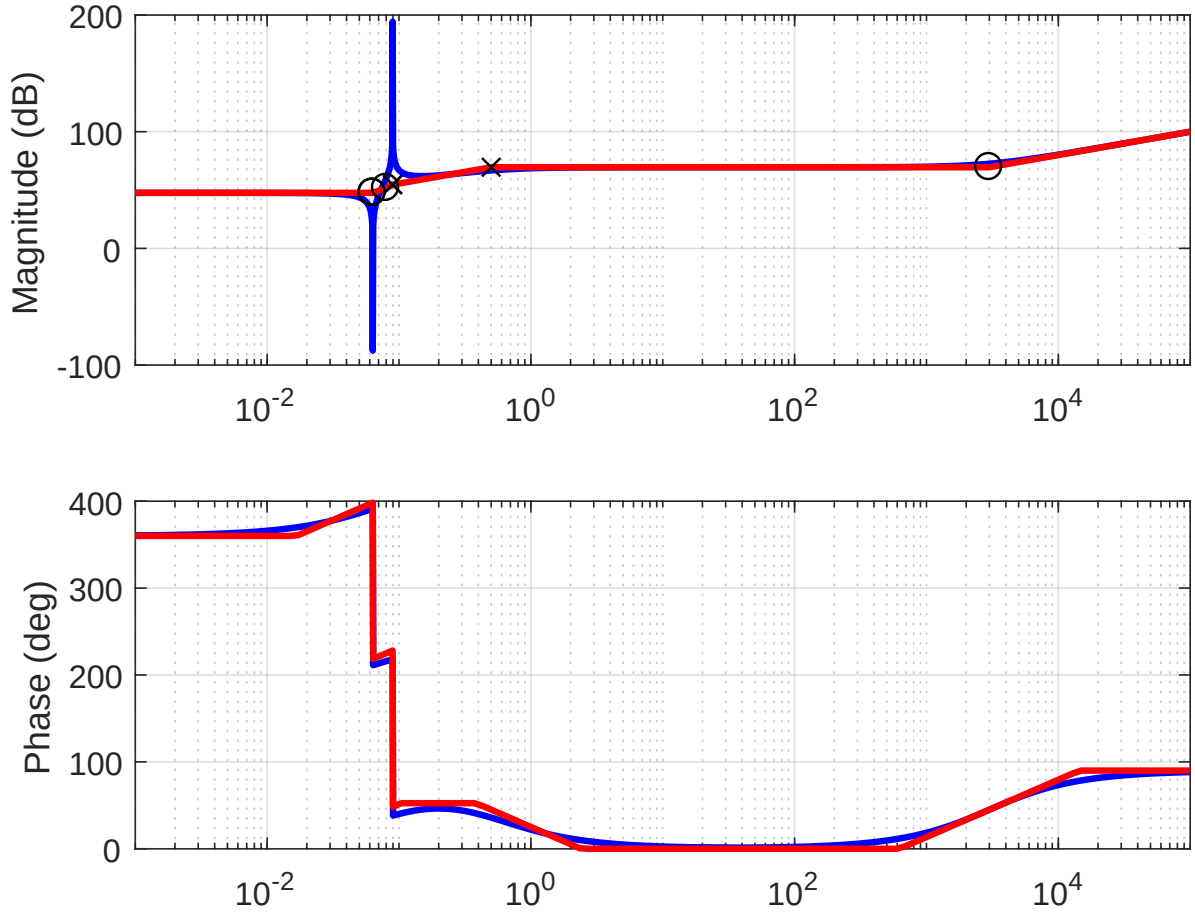
Domanda 3 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{s+7000}{\left(s^2+\frac{9}{1000}\right)\left(s+\frac{1}{2}\right)(s+5)(s+200)}$.
- ☐ $F(s) = \frac{\left(s^2+8\right)\left(s+\frac{1}{10}\right)}{\left(s+\frac{2}{5}\right)(s+50)(s+90)}$.
- ☐ $F(s) = \frac{1}{\left(s+\frac{4}{5}\right)(s+40)\left(s+\frac{7}{100}\right)\left(s+\frac{3}{500}\right)(s+800)}$.
- ☐ $F(s) = \frac{1}{(s^2+800)(s+2)^2(s+70)\left(s+\frac{1}{500}\right)}$.
- ☐ $F(s) = \frac{1}{(s^2+9000)\left(s+\frac{9}{10}\right)\left(s+\frac{9}{100}\right)(s+2000)(s+4000)}$.



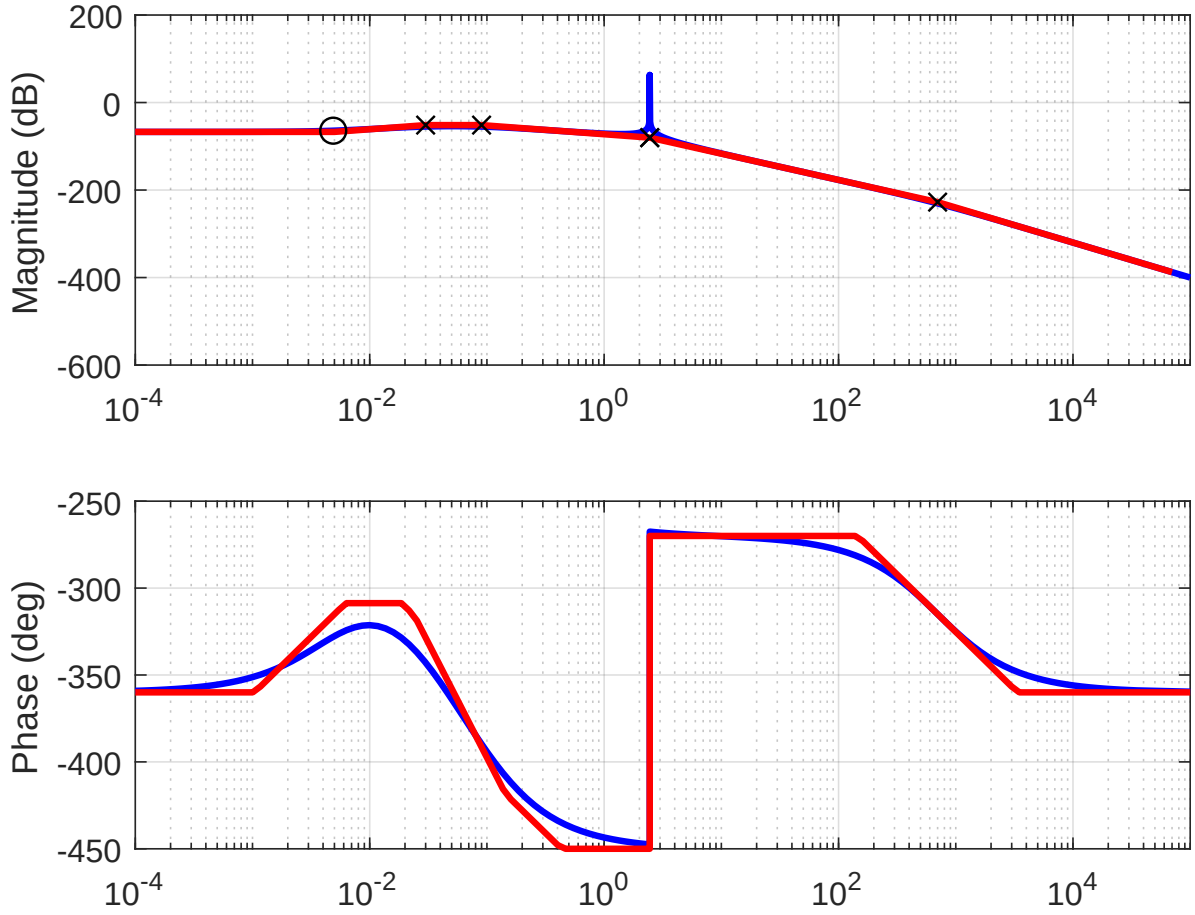
Domanda 4 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+\frac{3}{1000}\right)(s+1)(s+7)\left(s+\frac{1}{100}\right)}{s^2+2000}$.
- ☐ $F(s) = \frac{\left(s^2+700\right)\left(s^2+8000\right)\left(s+\frac{1}{5}\right)\left(s+\frac{1}{250}\right)(s+700)}{s}$.
- ☐ $F(s) = \frac{(s+8)\left(s+\frac{4}{5}\right)\left(s+\frac{2}{25}\right)(s+80)(s+400)}{s}$.
- ☐ $F(s) = \frac{(s+9)\left(s+\frac{7}{10}\right)\left(s+\frac{1}{20}\right)(s+50)(s+60)}{s}$.
- ☐ $F(s) = \frac{\left(s^2+500\right)\left(s+\frac{2}{5}\right)\left(s+\frac{3}{50}\right)(s+2000)}{s+100}$.



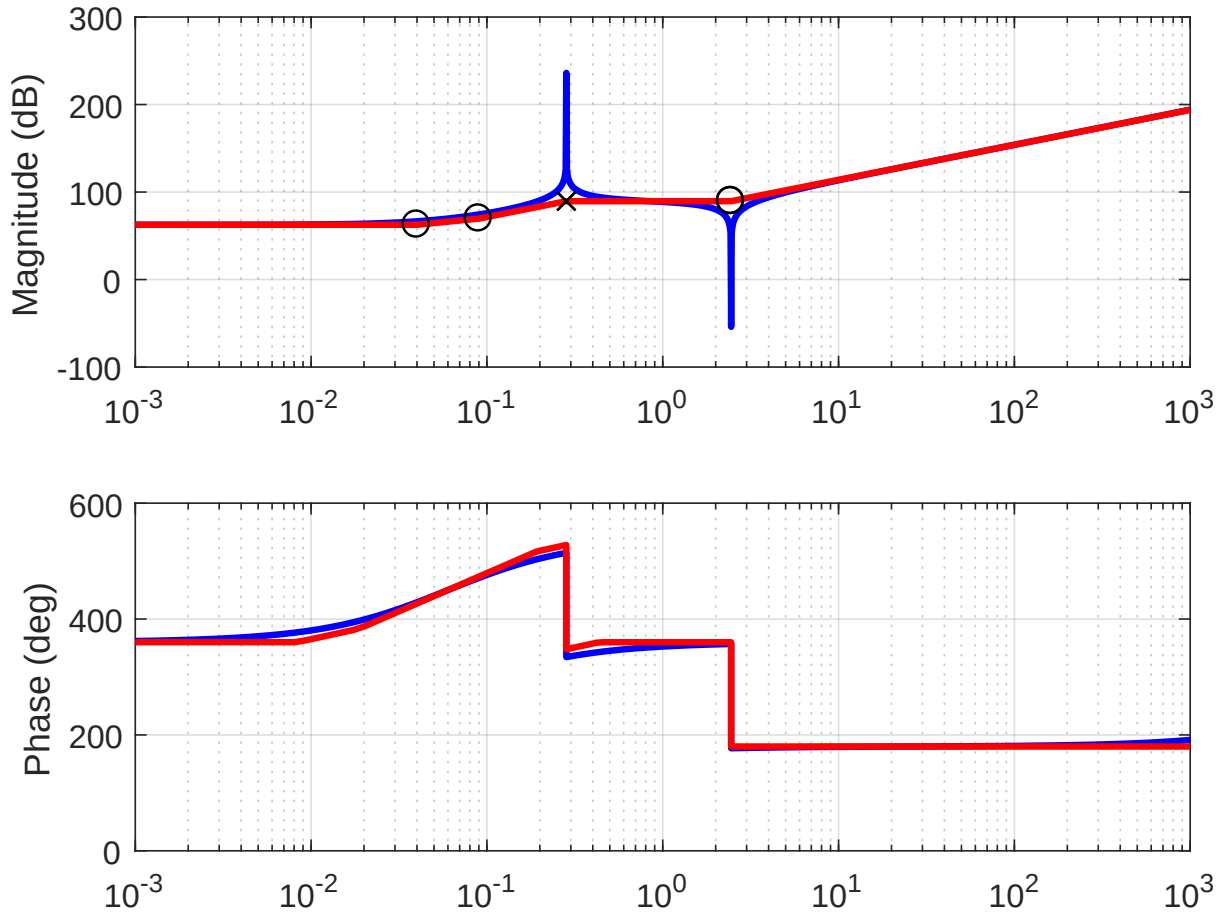
Domanda 5 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+9)\,(s+60)\,(s+1000)}{\left(s^2+\frac{1}{2}\right)(s+40)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{250}\right)\left(s+\frac{2}{25}\right)(s+3000)}{\left(s^2+\frac{1}{125}\right)\left(s+\frac{1}{2}\right)}$.
- ☐ $F(s) = \frac{\left(s+\frac{1}{20}\right)\left(s+\frac{2}{25}\right)}{\left(s^2+\frac{3}{50}\right)(s+30)\,(s+2000)}$.
- ☐ $F(s) = \frac{\left(s^2+9\right)\left(s^2+\frac{3}{10}\right)(s+4)}{(s^2+700)\,(s+8)}$.
- ☐ $F(s) = \frac{\left(s^2+7\right)(s+5)\,(s+100)^2}{s^2+\frac{1}{10}}$.



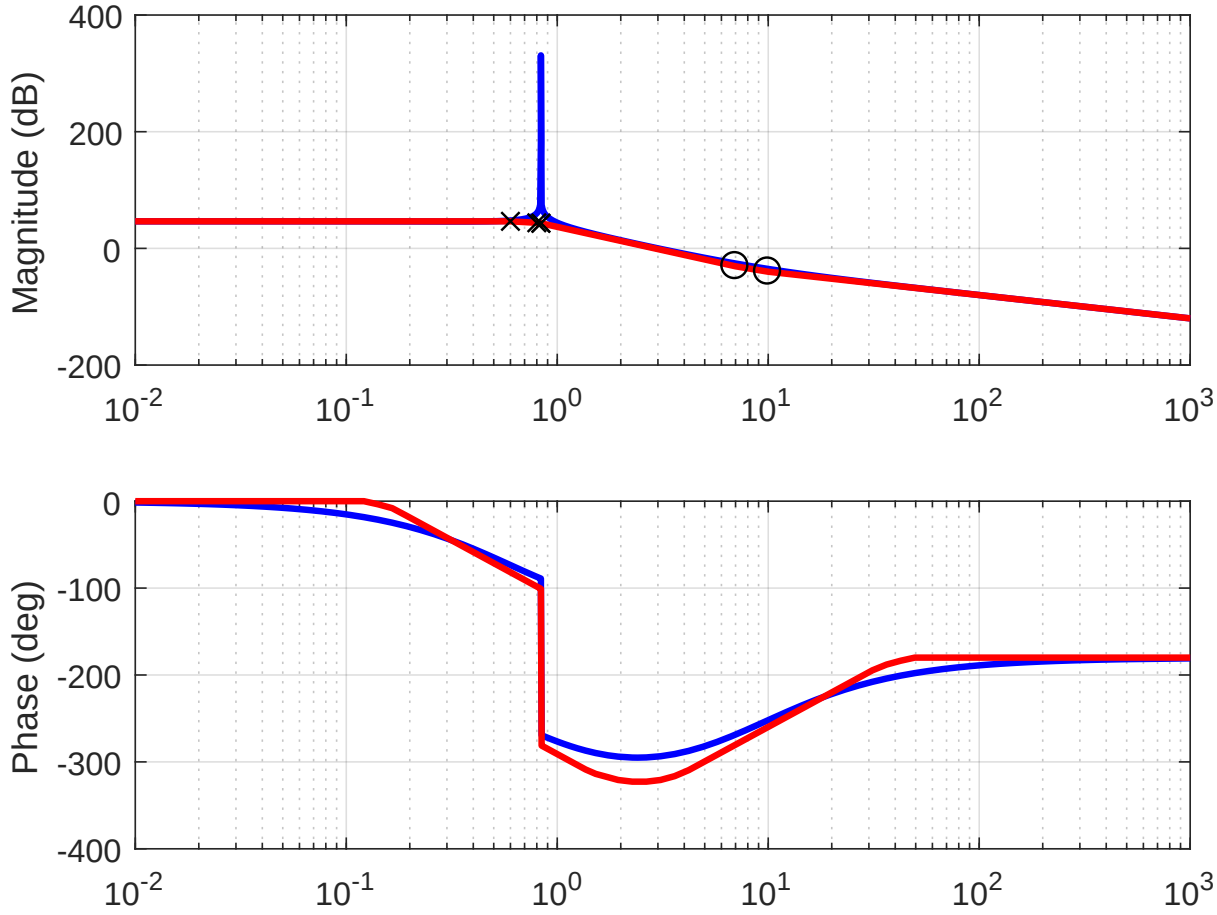
Domanda 6 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+8000\right)\left(s+\frac{2}{25}\right)}{\left(s^2+\frac{7}{100}\right)\left(s^2+\frac{3}{1000}\right)(s+10)}$.
- ☐ $F(s) = \frac{(s+6)(s+30)(s+400)}{(s^2+4)\left(s+\frac{3}{100}\right)}$.
- ☐ $F(s) = \frac{s+\frac{1}{200}}{(s+8)\left(s+\frac{1}{20}\right)(s+50)(s+7000)}$.
- ☐ $F(s) = \frac{s+\frac{1}{200}}{(s^2+6)\left(s+\frac{3}{100}\right)\left(s+\frac{9}{100}\right)(s+700)}$.
- ☐ $F(s) = \frac{(s+80)(s+6000)}{\left(s^2+\frac{3}{5}\right)(s^2+200)\left(s+\frac{7}{10}\right)}$.



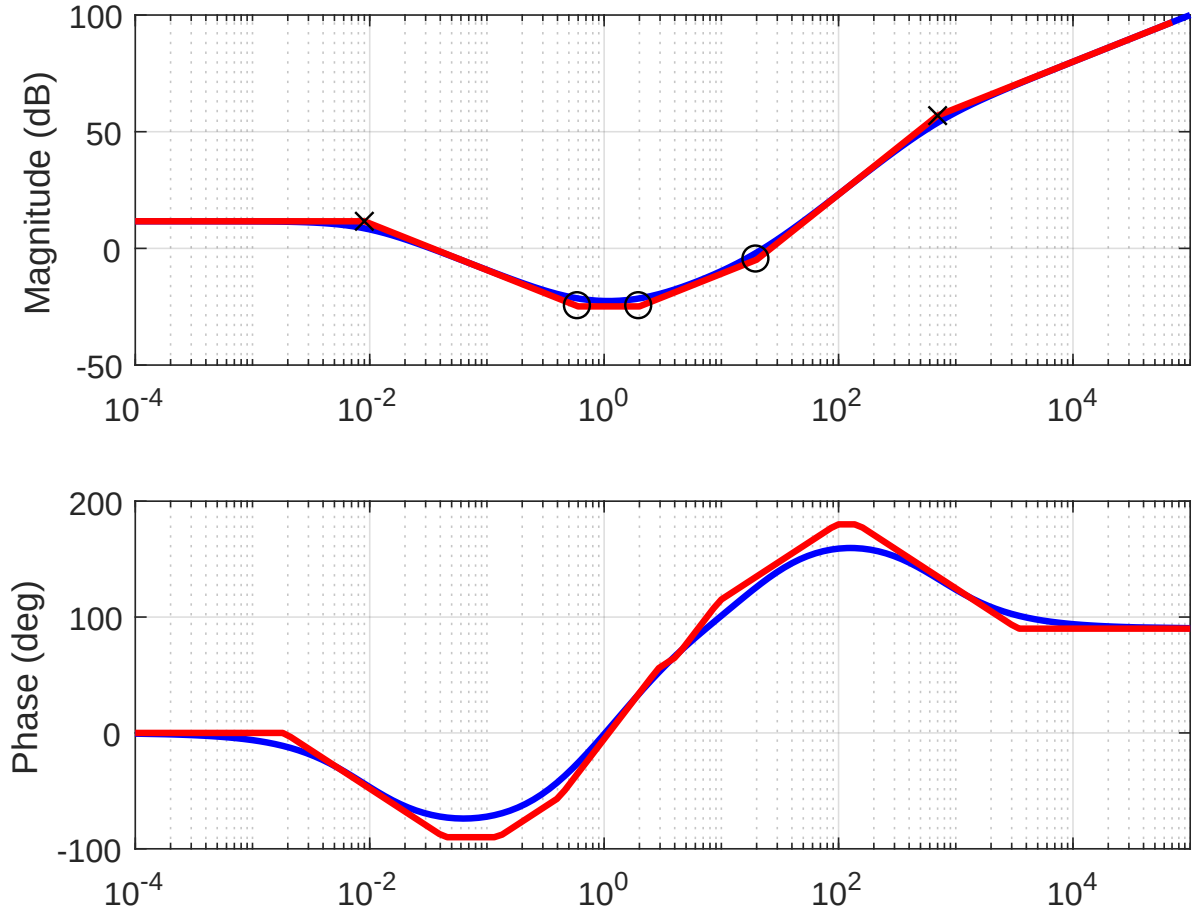
Domanda 7 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+\frac{3}{500}\right)\left(s+\frac{3}{500}\right)(s+700)\left(s+\frac{3}{1000}\right)}{s+900}$.
- ☐ $F(s) = \frac{\left(s^2+6\right)\left(s+\frac{1}{25}\right)\left(s+\frac{9}{100}\right)(s+5000)}{s^2+\frac{2}{25}}$.
- ☐ $F(s) = \frac{\left(s^2+80\right)\left(s+\frac{2}{25}\right)(s+500)}{(s+4)(s+7000)}$.
- ☐ $F(s) = \frac{\left(s^2+4\right)\left(s^2+\frac{2}{25}\right)\left(s+\frac{1}{200}\right)}{(s^2+8000)(s+7)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{9}{100}\right)(s+4)}{\left(s^2+\frac{7}{1000}\right)\left(s+\frac{1}{2}\right)(s+60)}$.



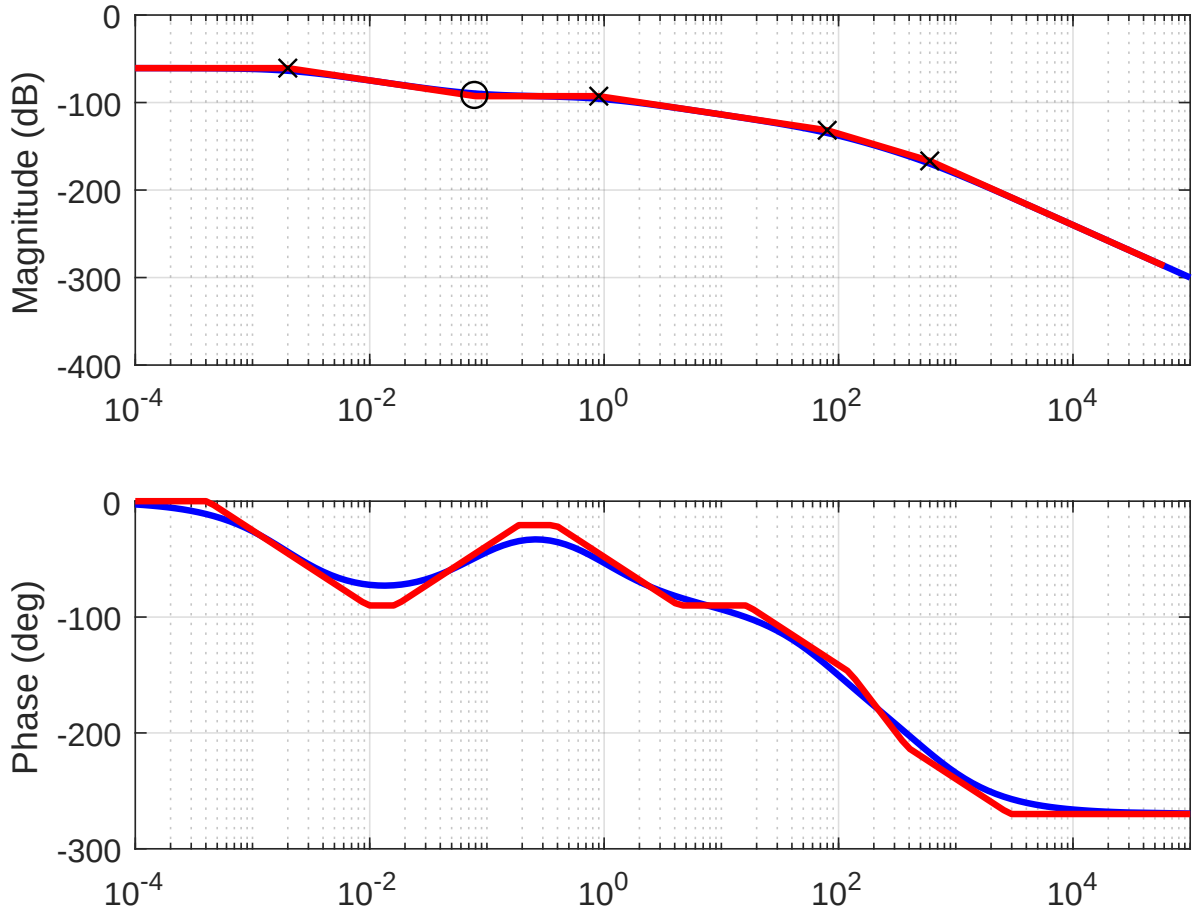
Domanda 8 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+4)\left(s+\frac{1}{25}\right)\left(s+\frac{7}{100}\right)}{(s+20)\,(s+90)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{2}\right)\left(s+\frac{2}{5}\right)(s+300)\,(s+9000)}{s+6000}$.
- ☐ $F(s) = \frac{s+2}{(s+10)\left(s+\frac{3}{50}\right)(s+3000)\,(s+9000)}$.
- ☐ $F(s) = \frac{(s+500)\,(s+800)}{(s^2+3)\left(s+\frac{9}{100}\right)\left(s+\frac{3}{1000}\right)}$.
- ☐ $F(s) = \frac{(s+7)\,(s+10)}{\left(s^2+\frac{7}{10}\right)\left(s+\frac{3}{5}\right)\left(s+\frac{4}{5}\right)}$.



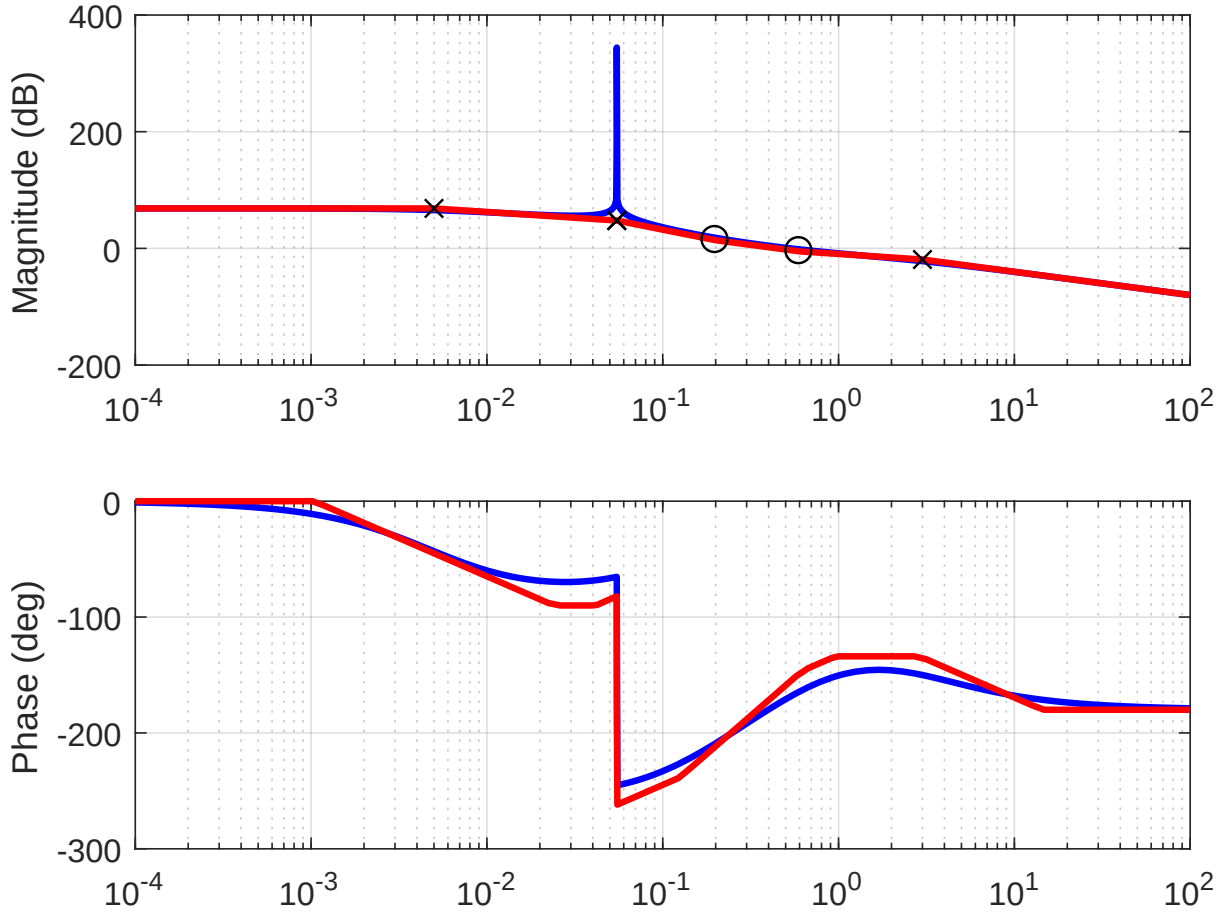
Domanda 9 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+100)\left(s+\frac{7}{100}\right)(s+7000)}{(s+900)^2}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{7}{10}\right)\left(s^2+\frac{1}{250}\right)(s+9)(s+200)(s+7000)}{s}$.
- ☐ $F(s) = \frac{(s+8)\left(s+\frac{1}{250}\right)(s+10000)}{\left(s^2+\frac{1}{2}\right)\left(s+\frac{1}{200}\right)}$.
- ☐ $F(s) = \frac{(s+2)\left(s+\frac{3}{5}\right)(s+20)}{(s+700)\left(s+\frac{9}{1000}\right)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{100}\right)\left(s+\frac{1}{125}\right)\left(s+\frac{1}{250}\right)}{\left(s+\frac{3}{10}\right)^2}$.



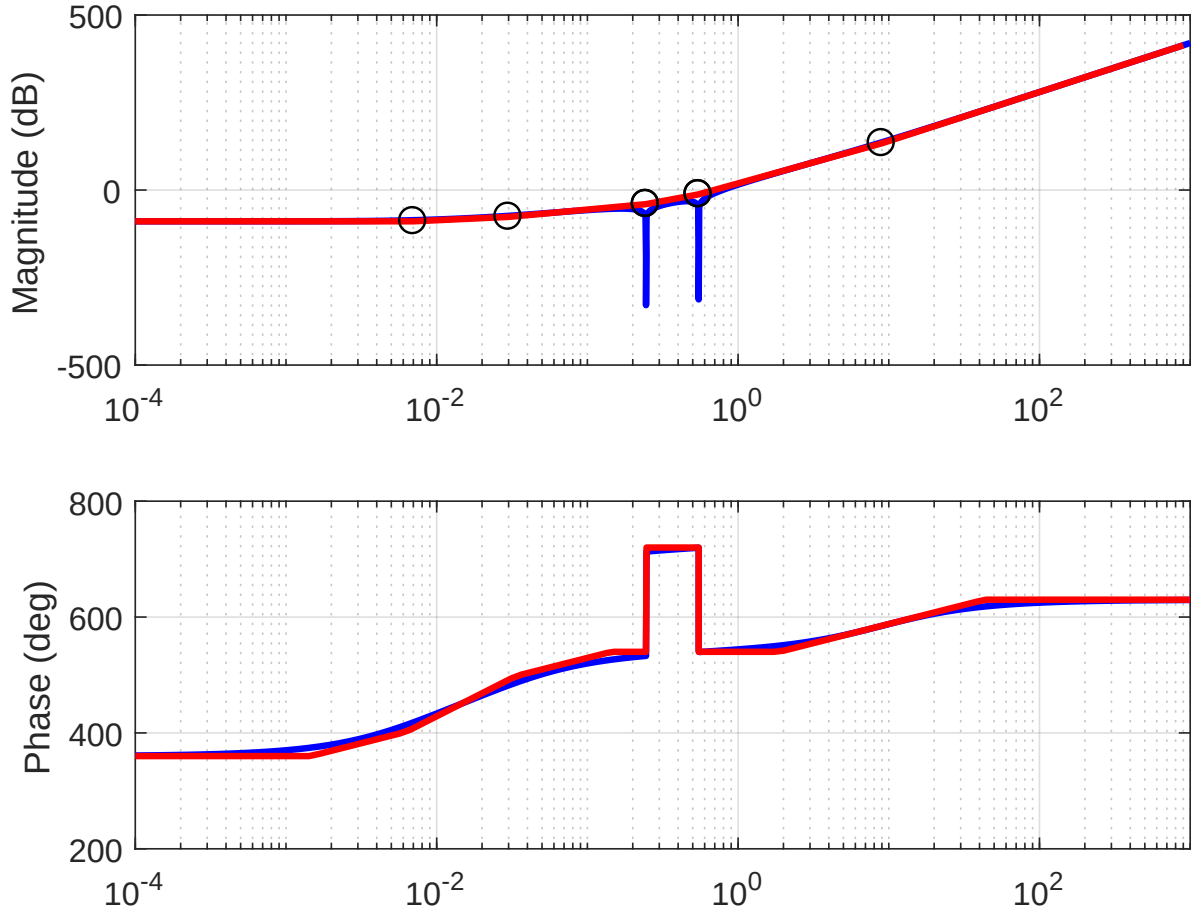
Domanda 10 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{s^2+\frac{3}{10}}{\left(s^2+\frac{9}{1000}\right)(s^2+3000)(s+9)\left(s+\frac{1}{10}\right)}$.
- ☐ $F(s) = \frac{(s+100)\left(s+\frac{3}{1000}\right)}{(s^2+3000)(s+500)(s+6000)}$.
- ☐ $F(s) = \frac{s+\frac{2}{25}}{\left(s+\frac{9}{10}\right)(s+80)\left(s+\frac{1}{500}\right)(s+600)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{50}\right)(s+5000)}{(s^2+3)\left(s^2+\frac{1}{250}\right)(s+70)}$.
- ☐ $F(s) = \frac{s^2+\frac{1}{20}}{(s^2+5000)(s+8)(s+50)\left(s+\frac{1}{250}\right)}$.



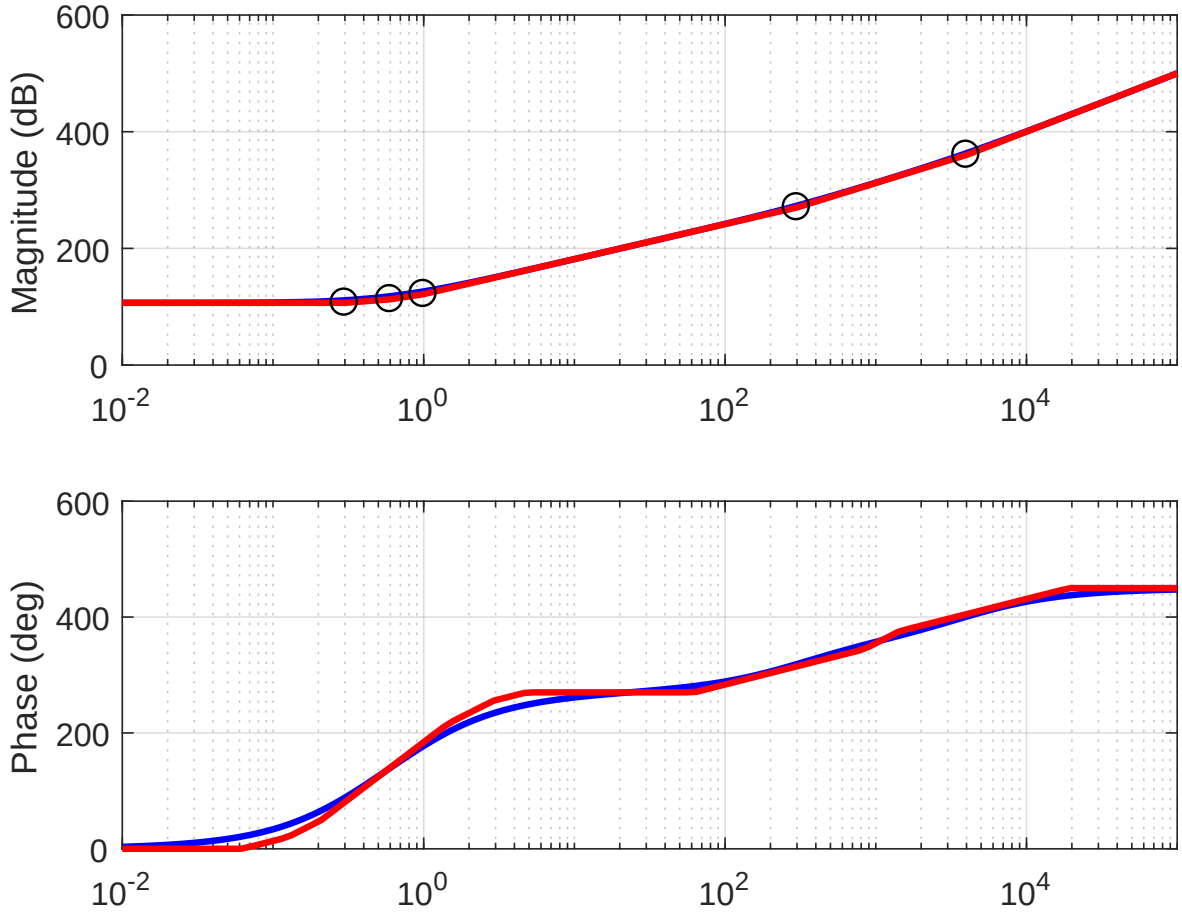
Domanda 11 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{s+\frac{3}{50}}{\left(s^2+\frac{1}{125}\right)\left(s+\frac{1}{25}\right)(s+800)\,(s+1000)}$.
- ☐ $F(s) = \frac{\left(s+\frac{1}{5}\right)\left(s+\frac{3}{5}\right)}{\left(s^2+\frac{3}{1000}\right)(s+3)\left(s+\frac{1}{200}\right)}$.
- ☐ $F(s) = \frac{(s+8)\left(s+\frac{3}{10}\right)}{(s+7)\left(s+\frac{2}{25}\right)\left(s+\frac{1}{50}\right)}$.
- ☐ $F(s) = \frac{s+\frac{3}{10}}{\left(s+\frac{1}{5}\right)(s+6)^2\left(s+\frac{1}{200}\right)}$.
- ☐ $F(s) = \frac{(s+600)\,(s+900)}{\left(s^2+\frac{2}{5}\right)(s+80)\,(s+800)}$.



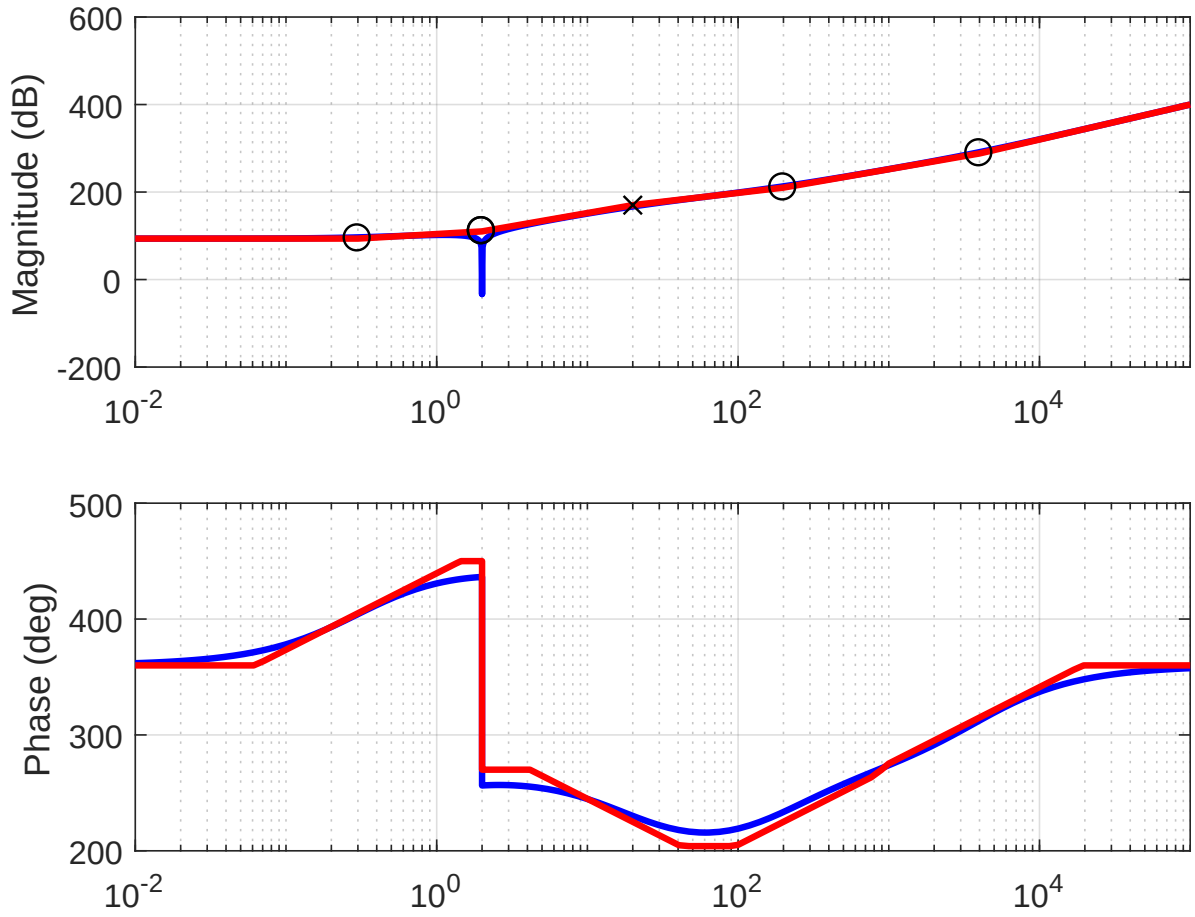
Domanda 12 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s+\frac{3}{5}\right)(s+100)(s+500)(s+5000)}{s^2+5}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{100}\right)\left(s^2+\frac{3}{1000}\right)(s+80)(s+100)(s+500)}{s}$.
- ☐ $F(s) = \left(s+\frac{4}{5}\right)(s+9)(s+90)$.
- ☐ $F(s) = \frac{\left(s^2+60\right)\left(s^2+\frac{1}{100}\right)(s+4)(s+1000)(s+3000)}{s}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{10}\right)\left(s^2+\frac{3}{50}\right)(s+9)\left(s+\frac{3}{100}\right)\left(s+\frac{7}{1000}\right)}{s}$.



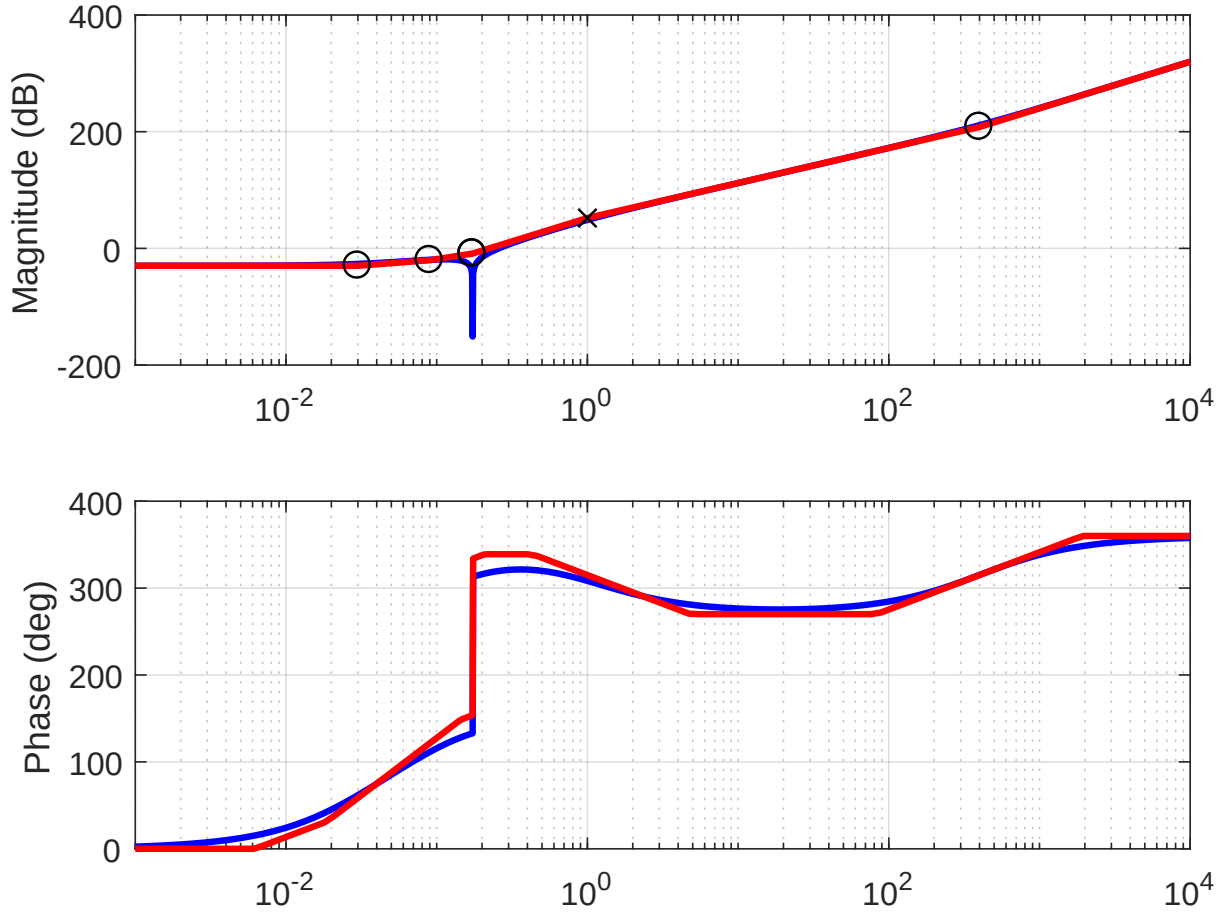
Domanda 13 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+1)\left(s+\frac{3}{5}\right)\left(s+\frac{3}{10}\right)(s+300)(s+4000)}{s}$.
- ☐ $F(s) = \frac{(s+1)\left(s+\frac{7}{1000}\right)(s+2000)}{(s+50)(s+400)}$.
- ☐ $F(s) = \frac{\left(s+\frac{2}{5}\right)\left(s+\frac{1}{250}\right)(s+3000)}{(s+300)(s+400)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{5}\right)\left(s+\frac{7}{100}\right)(s+900)}{\left(s+\frac{1}{250}\right)(s+600)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{4}{5}\right)\left(s+\frac{1}{5}\right)}{\left(s+\frac{2}{5}\right)\left(s+\frac{3}{100}\right)\left(s+\frac{9}{1000}\right)}$.



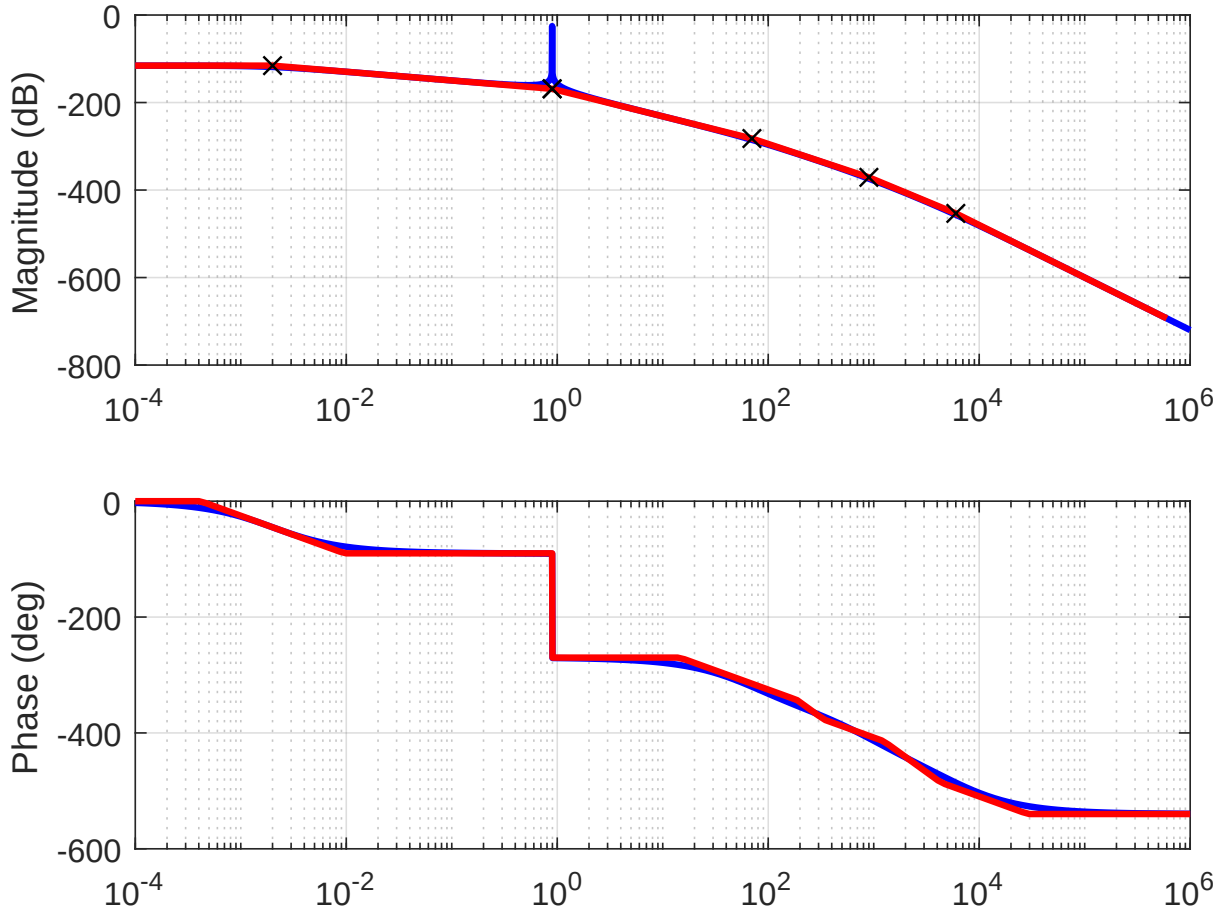
Domanda 14 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+4\right)\left(s+\frac{3}{10}\right)(s+200)(s+4000)}{s+20}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{5}\right)\left(s^2+5000\right)(s+6)(s+1000)}{s+8000}$.
- ☐ $F(s) = \frac{(s+5)\left(s+\frac{1}{10}\right)(s+70)}{\left(s+\frac{2}{5}\right)(s+700)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{100}\right)\left(s+\frac{3}{5}\right)\left(s+\frac{7}{1000}\right)}{(s^2+10000)(s+2000)}$.
- ☐ $F(s) = \frac{s+60}{\left(s+\frac{1}{20}\right)\left(s+\frac{9}{100}\right)(s+400)(s+500)}$.



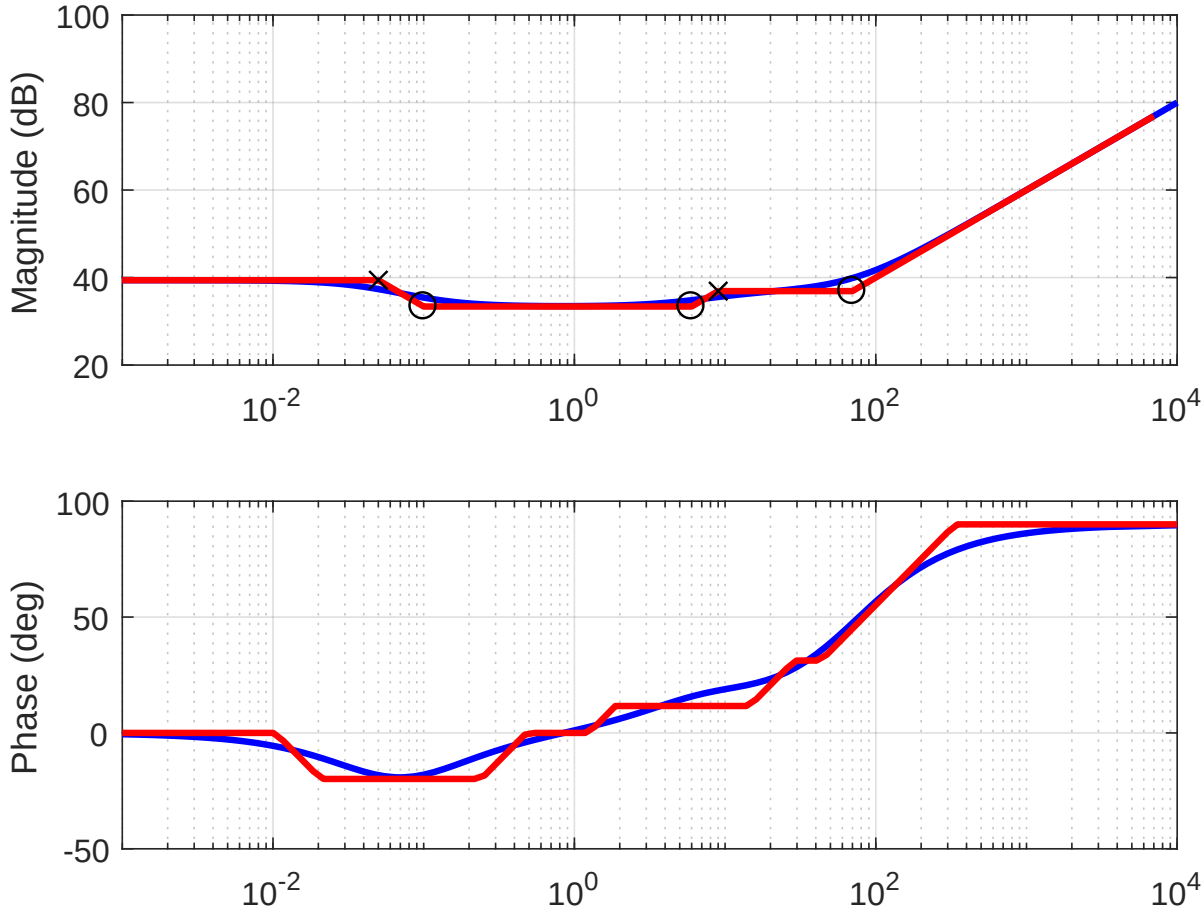
Domanda 15 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s+\frac{1}{2}\right)\left(s+\frac{3}{50}\right)(s+60)(s+200)}{s+900}$.
- ☐ $F(s) = \frac{\left(s+\frac{9}{100}\right)(s+300)(s+10000)}{\left(s+\frac{2}{5}\right)(s+3000)}$.
- ☐ $F(s) = \frac{\left(s^2+8\right)\left(s^2+500\right)\left(s+\frac{1}{200}\right)(s+7000)}{s+800}$.
- ☐ $F(s) = \frac{\left(s^2+700\right)\left(s+\frac{1}{10}\right)(s+100)(s+4000)(s+5000)}{s}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{3}{100}\right)\left(s+\frac{3}{100}\right)\left(s+\frac{9}{100}\right)(s+400)}{s+1}$.



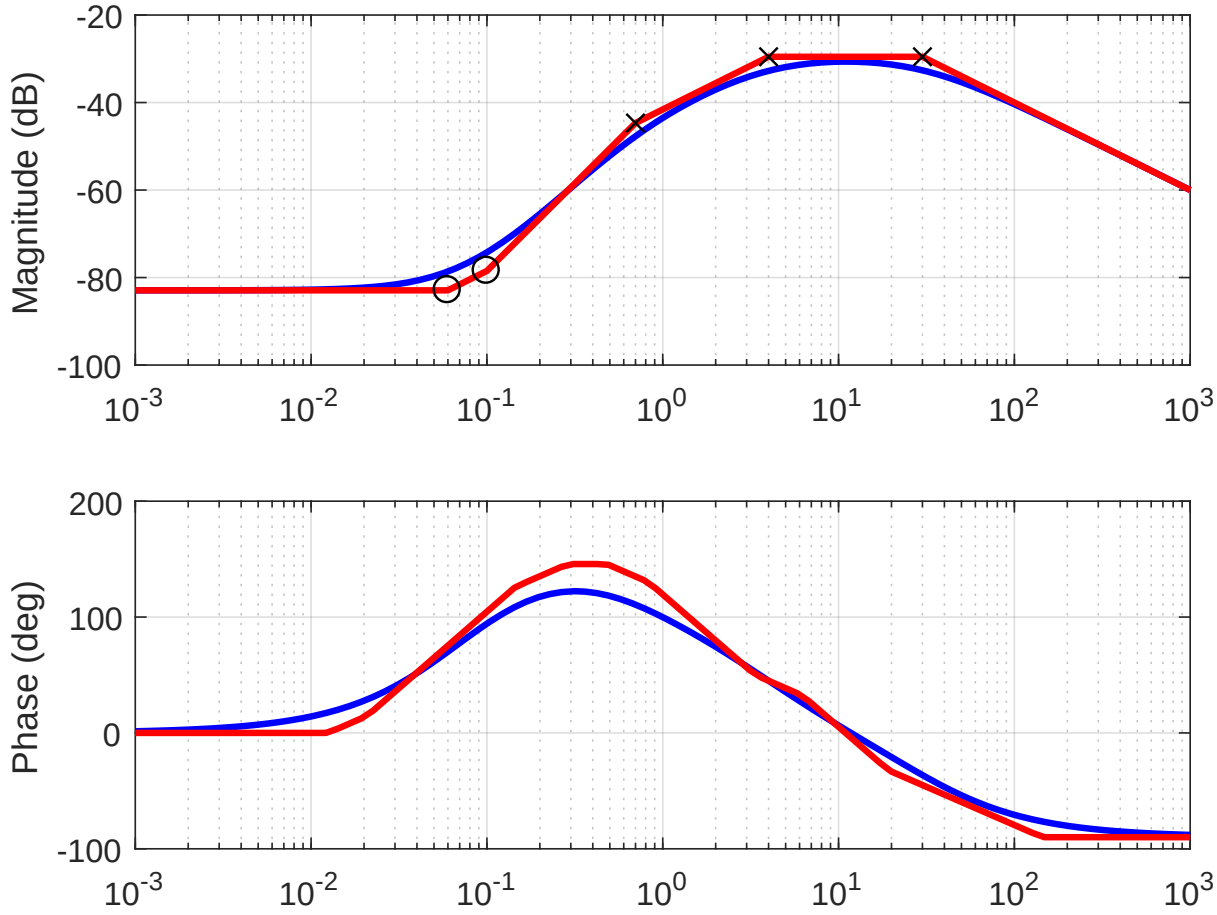
Domanda 16 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+\frac{1}{500}\right)(s+7000)}{\left(s^2+\frac{2}{5}\right)(s+5)\left(s+\frac{1}{100}\right)}$.
- ☐ $F(s) = \frac{\left(s^2+600\right)\left(s+\frac{1}{5}\right)}{(s^2+200)\left(s+\frac{1}{20}\right)(s+30)}$.
- ☐ $F(s) = \frac{\left(s^2+1\right)\left(s+\frac{2}{5}\right)}{\left(s^2+\frac{1}{20}\right)\left(s+\frac{3}{1000}\right)(s+5000)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{200}\right)\left(s+\frac{1}{5}\right)(s+6)}{(s^2+2)\left(s^2+\frac{1}{20}\right)}$.
- ☐ $F(s) = \frac{1}{\left(s^2+\frac{4}{5}\right)(s+70)\left(s+\frac{1}{500}\right)(s+900)(s+6000)}$.



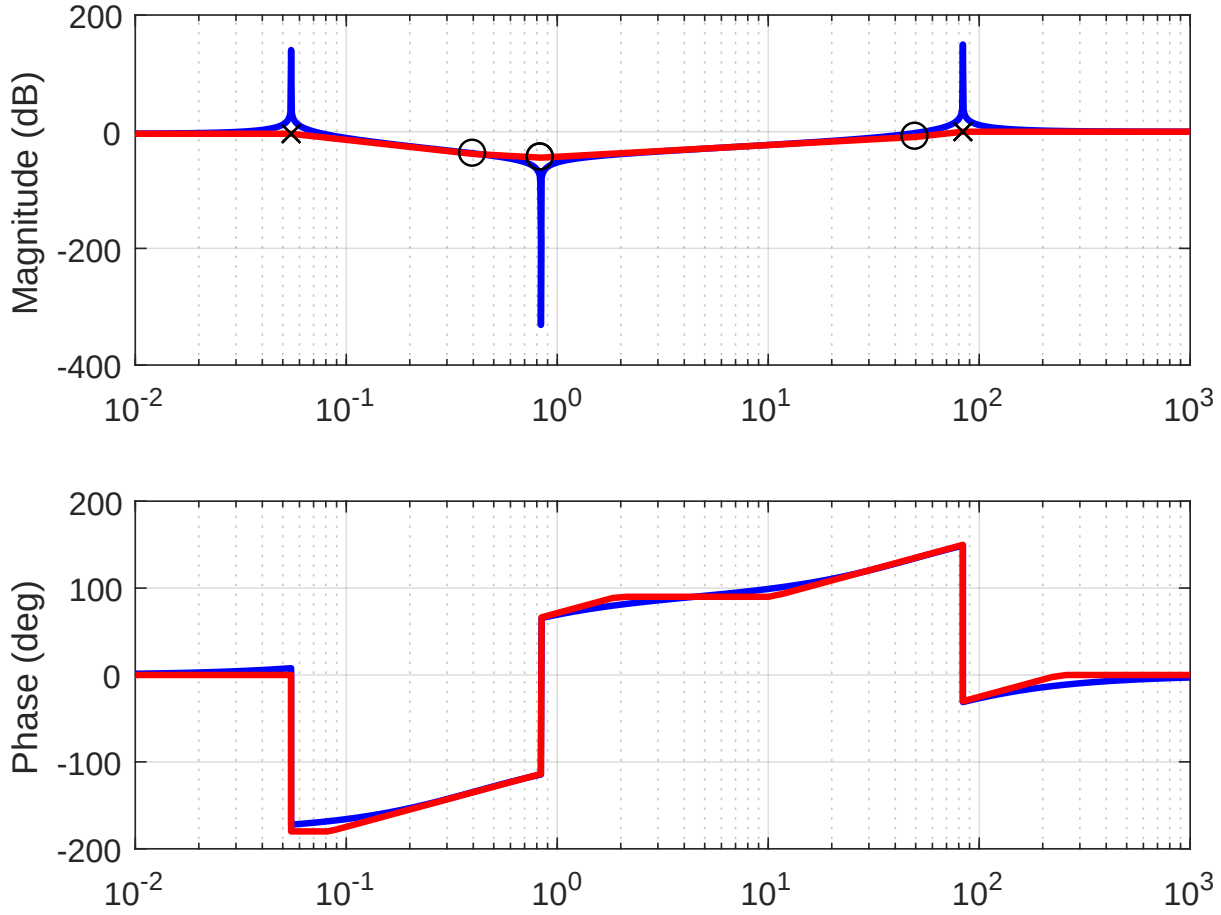
Domanda 17 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{1}{(s^2+10)\,(s+500)\left(s+\frac{1}{500}\right)(s+700)\,(s+5000)}$.
- ☐ $F(s) = \frac{(s+2)\,(s+10000)}{\left(s^2+\frac{1}{100}\right)(s+3000)\,(s+5000)}$.
- ☐ $F(s) = \frac{s+\frac{3}{5}}{\left(s^2+\frac{3}{50}\right)\left(s+\frac{9}{1000}\right)}$.
- ☐ $F(s) = \frac{\left(s+\frac{3}{5}\right)(s+9000)}{(s^2+7000)\,(s+7)\left(s+\frac{3}{500}\right)}$.
- ☐ $F(s) = \frac{(s+6)\left(s+\frac{1}{10}\right)(s+70)}{(s+9)\left(s+\frac{1}{20}\right)}$.



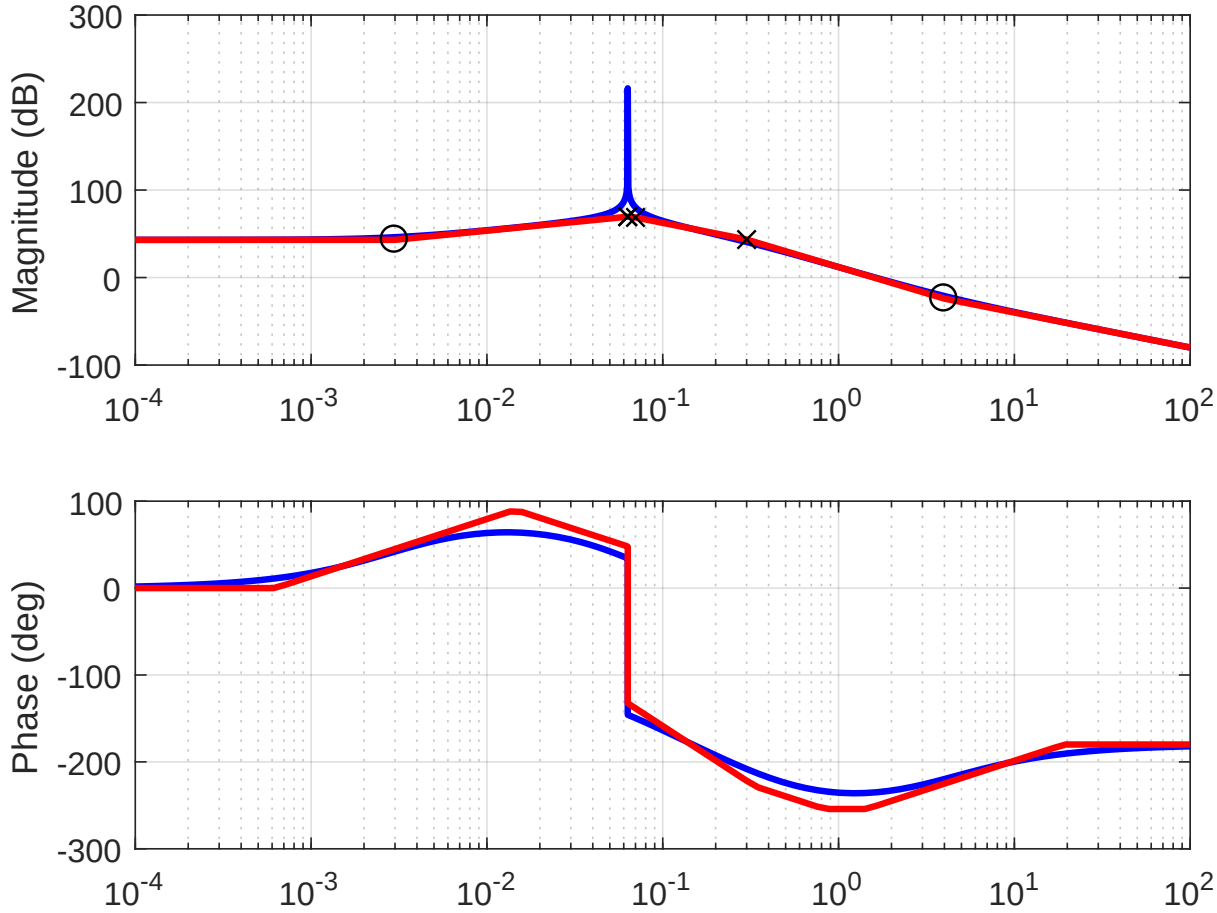
Domanda 18 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+9000\right)(s+900)(s+1000)}{\left(s^2+\frac{3}{500}\right)(s+8000)}$.
- ☐ $F(s) = \frac{s+400}{(s^2+60)(s+6)(s+90)\left(s+\frac{1}{200}\right)}$.
- ☐ $F(s) = \frac{s^2+\frac{3}{50}}{\left(s^2+\frac{9}{1000}\right)(s+9)(s+20)(s+400)}$.
- ☐ $F(s) = \frac{\left(s+\frac{1}{10}\right)\left(s+\frac{3}{50}\right)}{(s+4)\left(s+\frac{7}{10}\right)(s+30)}$.
- ☐ $F(s) = \frac{s+10000}{(s+4)(s+70)}$.



Domanda 19 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{\left(s^2+\frac{3}{5}\right)\left(s^2+\frac{1}{500}\right)(s+2)(s+3)\left(s+\frac{3}{10}\right)}{s}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{250}\right)\left(s^2+900\right)(s+7)\left(s+\frac{7}{1000}\right)(s+10000)}{s}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{2}{5}\right)\left(s^2+\frac{7}{10}\right)\left(s^2+\frac{1}{25}\right)(s+200)}{s+10000}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{9}{10}\right)(s+10)\left(s+\frac{9}{100}\right)\left(s+\frac{7}{1000}\right)}{s+80}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{7}{10}\right)\left(s+\frac{2}{5}\right)(s+50)}{\left(s^2+\frac{3}{1000}\right)(s^2+7000)}$.



Domanda 20 Dire a quale delle seguenti funzioni di trasferimento corrisponde il sopra riportato Bode plot:

- ☐ $F(s) = \frac{(s+40)\left(s+\frac{1}{100}\right)(s+2000)}{\left(s^2+\frac{1}{125}\right)(s+200)}$.
- ☐ $F(s) = \frac{\left(s^2+5000\right)\left(s+\frac{3}{500}\right)^2}{\left(s^2+\frac{9}{10}\right)\left(s+\frac{2}{25}\right)}$.
- ☐ $F(s) = \frac{s+\frac{2}{5}}{\left(s+\frac{1}{10}\right)\left(s+\frac{9}{100}\right)(s+5000)(s+6000)}$.
- ☐ $F(s) = \frac{\left(s^2+\frac{1}{50}\right)(s+20)(s+30)(s+70)}{s^2+10000}$.
- ☐ $F(s) = \frac{(s+4)\left(s+\frac{3}{1000}\right)}{\left(s^2+\frac{1}{250}\right)\left(s+\frac{3}{10}\right)\left(s+\frac{7}{100}\right)}$.

2 Soluzioni Esercizi Bode

3 Soluzioni

1. $\frac{\left(s^2+3\right)\left(s+\frac{7}{1000}\right)}{(s+6)(s+700)(s+6000)}$

2. $\frac{\left(s+\frac{4}{5}\right)\left(s+\frac{7}{100}\right)\left(s+\frac{1}{125}\right)\left(s+\frac{9}{1000}\right)}{s+10000}$

3. $\frac{s+7000}{\left(s^2+\frac{9}{1000}\right)\left(s+\frac{1}{2}\right)(s+5)(s+200)}$

4. $\frac{\left(s^2+700\right)\left(s^2+8000\right)\left(s+\frac{1}{5}\right)\left(s+\frac{1}{250}\right)(s+700)}{s}$

5. $\frac{\left(s^2+\frac{1}{250}\right)\left(s+\frac{2}{25}\right)(s+3000)}{\left(s^2+\frac{1}{125}\right)\left(s+\frac{1}{2}\right)}$

6. $\frac{s+\frac{1}{200}}{(s^2+6)\left(s+\frac{3}{100}\right)\left(s+\frac{9}{100}\right)(s+700)}$

7. $\frac{\left(s^2+6\right)\left(s+\frac{1}{25}\right)\left(s+\frac{9}{100}\right)(s+5000)}{s^2+\frac{2}{25}}$

8. $\frac{(s+7)(s+10)}{\left(s^2+\frac{7}{10}\right)\left(s+\frac{3}{5}\right)\left(s+\frac{4}{5}\right)}$

9. $\frac{(s+2)\left(s+\frac{3}{5}\right)(s+20)}{(s+700)\left(s+\frac{9}{1000}\right)}$

10. $\frac{s+\frac{2}{25}}{\left(s+\frac{9}{10}\right)(s+80)\left(s+\frac{1}{500}\right)(s+600)}$

11. $\frac{\left(s+\frac{1}{5}\right)\left(s+\frac{3}{5}\right)}{\left(s^2+\frac{3}{1000}\right)(s+3)\left(s+\frac{1}{200}\right)}$

12. $\frac{\left(s^2+\frac{3}{10}\right)\left(s^2+\frac{3}{50}\right)(s+9)\left(s+\frac{3}{100}\right)\left(s+\frac{7}{1000}\right)}{s}$

13. $\frac{(s+1)\left(s+\frac{3}{5}\right)\left(s+\frac{3}{10}\right)(s+300)(s+4000)}{s}$

14. $\frac{\left(s^2+4\right)\left(s+\frac{3}{10}\right)(s+200)(s+4000)}{s+20}$

15. $\frac{\left(s^2+\frac{3}{100}\right)\left(s+\frac{3}{100}\right)\left(s+\frac{9}{100}\right)(s+400)}{s+1}$

16. $\frac{1}{\left(s^2+\frac{4}{5}\right)(s+70)\left(s+\frac{1}{500}\right)(s+900)(s+6000)}$

17. $\frac{(s+6)\left(s+\frac{1}{10}\right)(s+70)}{(s+9)\left(s+\frac{1}{20}\right)}$

18. $\frac{\left(s+\frac{1}{10}\right)\left(s+\frac{3}{50}\right)}{(s+4)\left(s+\frac{7}{10}\right)(s+30)}$

19. $\frac{\left(s^2+\frac{7}{10}\right)\left(s+\frac{2}{5}\right)(s+50)}{\left(s^2+\frac{3}{1000}\right)(s^2+7000)}$

20. $\frac{(s+4)\left(s+\frac{3}{1000}\right)}{\left(s^2+\frac{1}{250}\right)\left(s+\frac{3}{10}\right)\left(s+\frac{7}{100}\right)}$