Institución Universitaria Antonio José Camacho

SISTEMAS DINÁMICOS

TALLER 1 – DIAGRAMAS DE BLOQUES.

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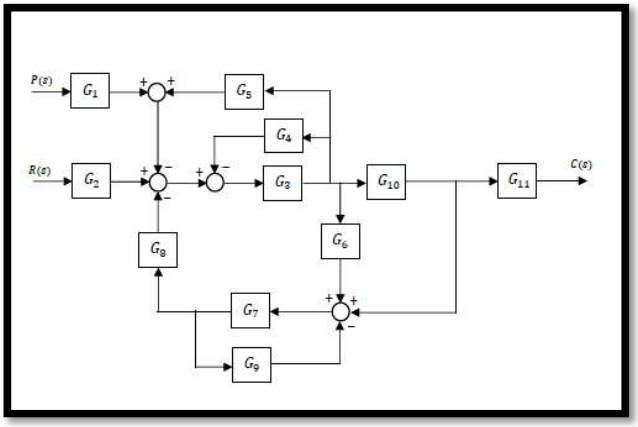
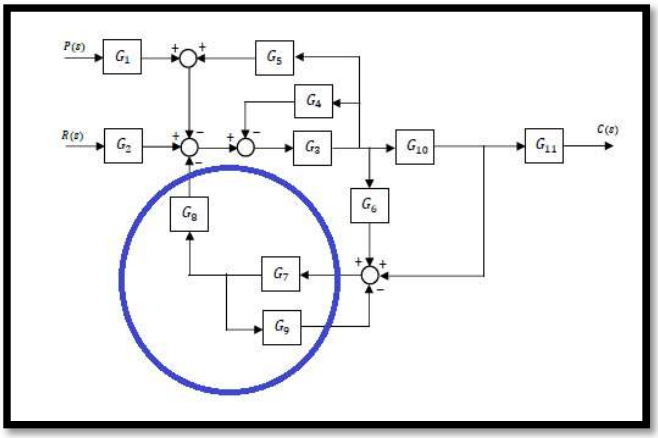


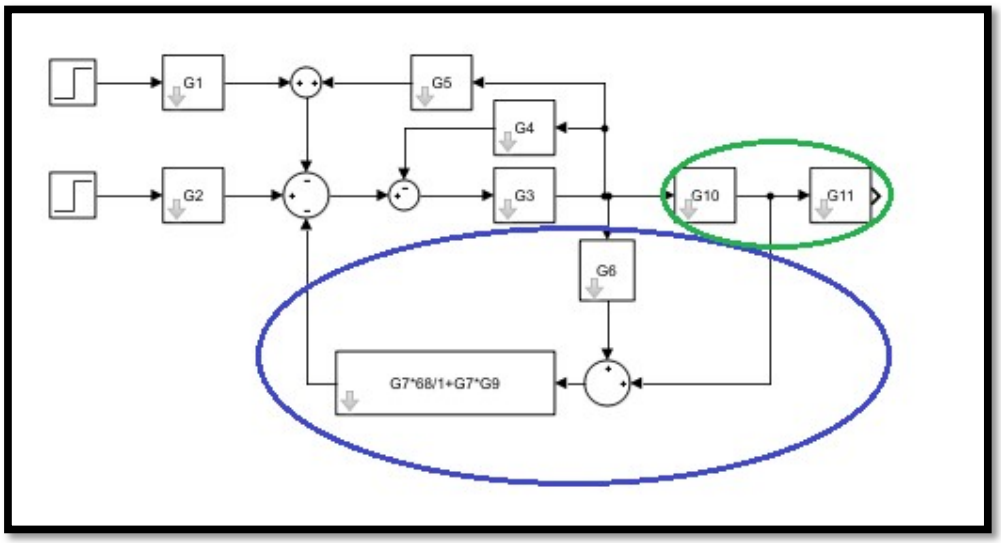
Solución.

1.



$$G8G7 * \frac{1}{1+G7G9} = \frac{G7G8}{1+G7G9}$$

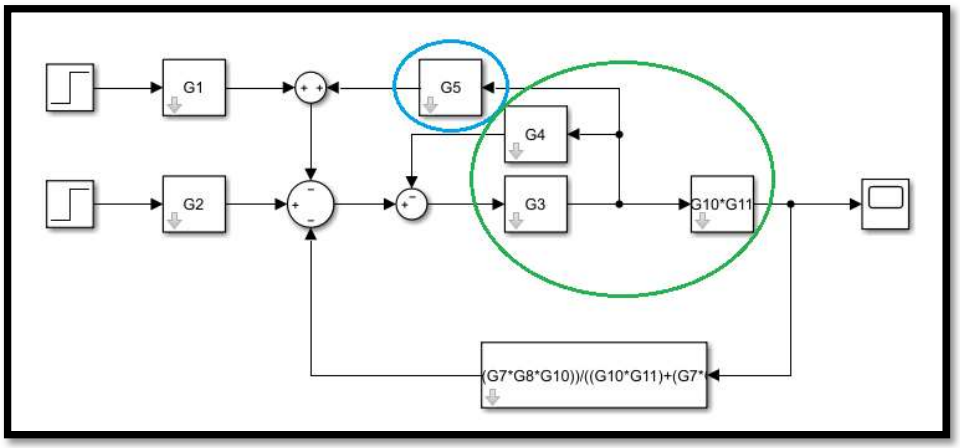
2.



$$\left(\frac{1}{G11}+\frac{G6}{G11G10}\right)*\frac{G7G8}{1+G7G9}=\frac{G10+G6}{G10G11}*\frac{G7G8}{1+G7G9}=\frac{G6G7G8+G7G8G10}{G10G11+G7G9G10G11}$$

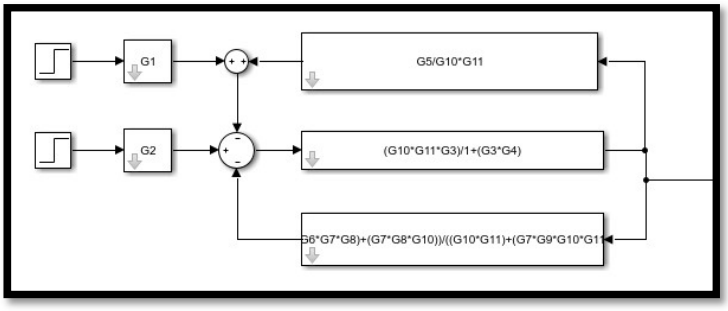
$$G10*G11$$

3.

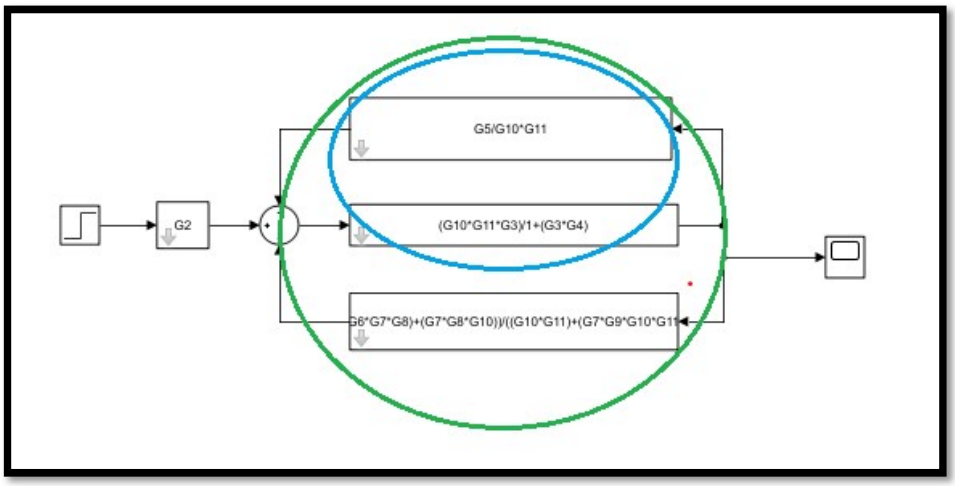


$$G5*\frac{1}{G10G11}=\frac{G5}{G10G11}$$

$$\frac{G3}{1+G3G4}*G10G11=\frac{G3G10G11}{1+G3G4}$$



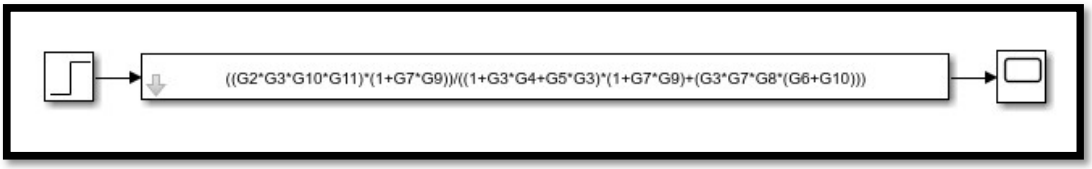
4. Superposición P(s)=0



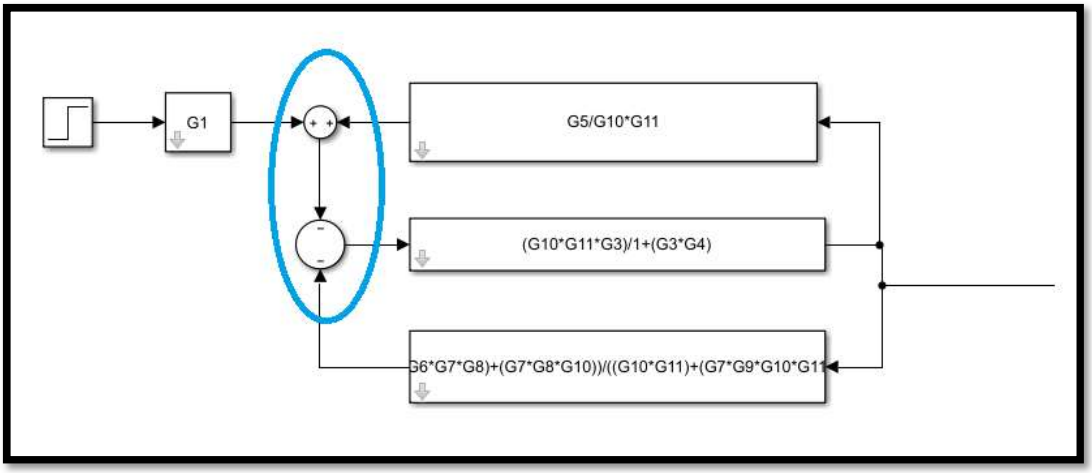
$$\frac{\frac{G3G10G11}{1+G3G4}}{1+\frac{G3G10G11}{1+G3G4}*\frac{G5}{G10G11}}=\frac{G3G10G11}{1+G3G4+G5G3}$$

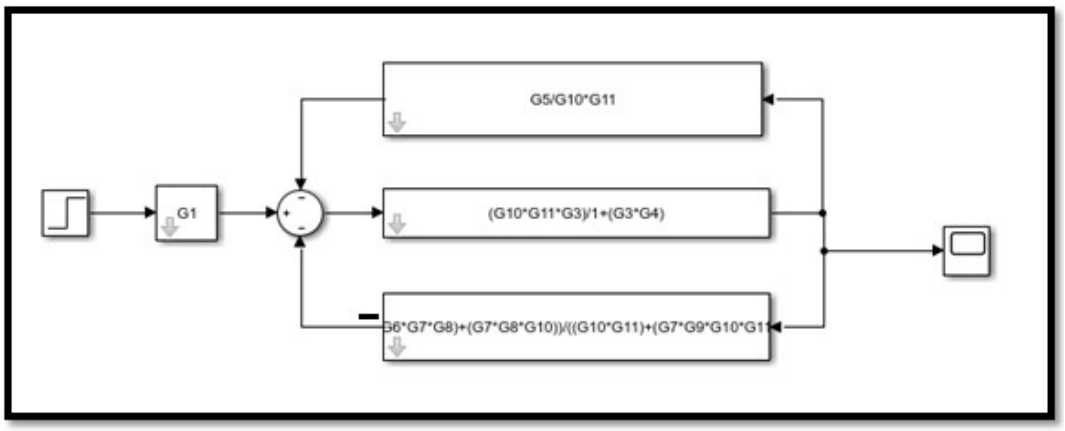
$$\frac{\frac{G3G10G11}{1+G3G4+G5G3}}{1+\frac{G3G10G11}{1+G3G4+G5G3}*\frac{G6G7G8+G7G8G10}{G10G11+G7G9G10G11}}=\frac{G3G10G11(1+G7G9)}{(1+G3G4+G5G3)(1+G7*G9)+G3G7G8(G6+G10)}$$

$$G2\frac{G3G10G11(1+G7G9)}{(1+G3G4+G5G3)(1+G7*G9)+G3G7G8(G6+G10)}=\frac{G2G3G10G11(1+G7G9)}{(1+G3G4+G5G3)(1+G7*G9)+G3G7G8(G6+G10)}$$

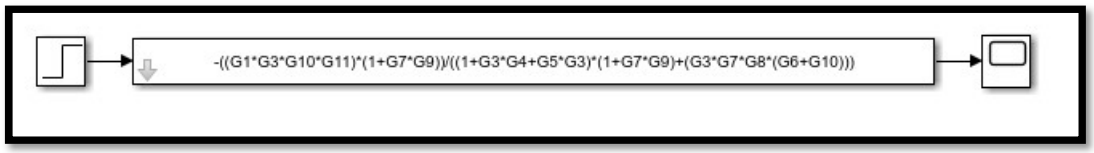


5. Superposición R(s)=0

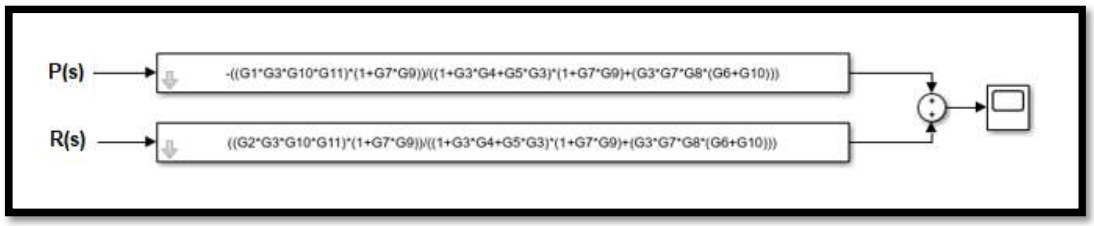




$$G1\frac{G3G10G11(1+G7G9)}{(1+G3G4+G5G3)(1+G7*G9)+G3G7G8(G6+G10)} = \frac{-G1G3G10G11(1+G7G9)}{(1+G3G4+G5G3)(1+G7*G9)+G3G7G8(G6+G10)}$$



SOLUCIÓN



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