Reglerteknik Ö4

Köp övningshäfte på kårbokhandeln

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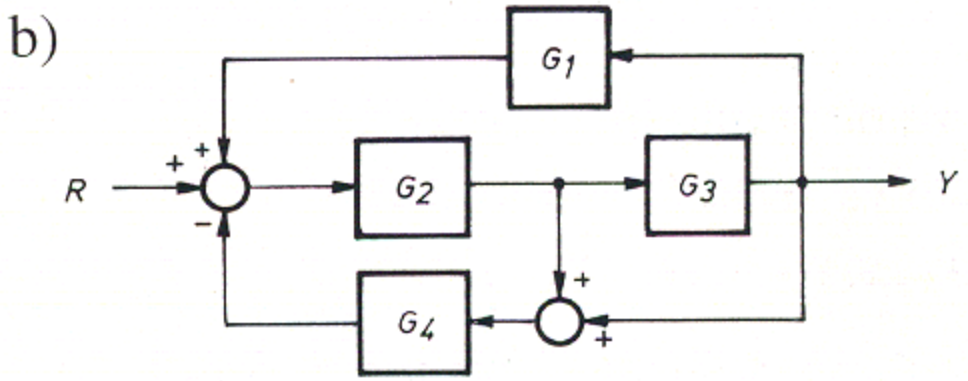
8.5 b Blockschemareduktion



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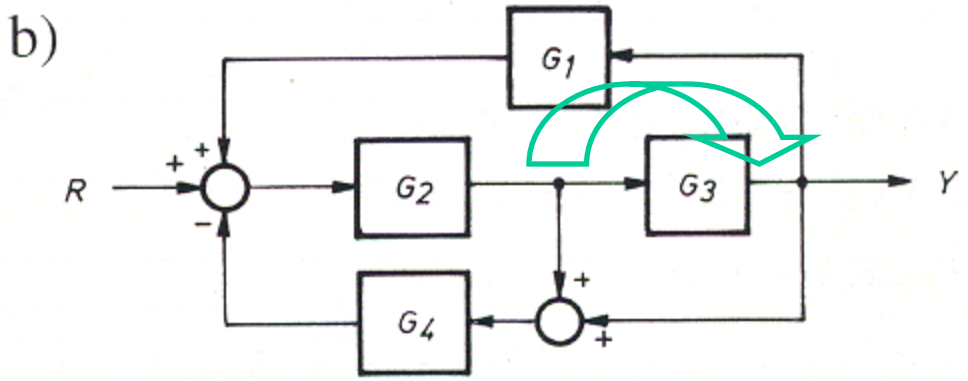

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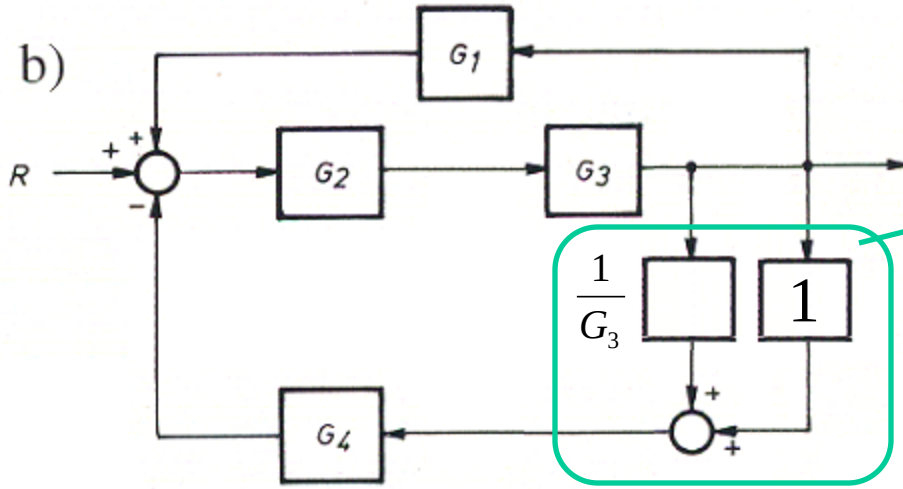
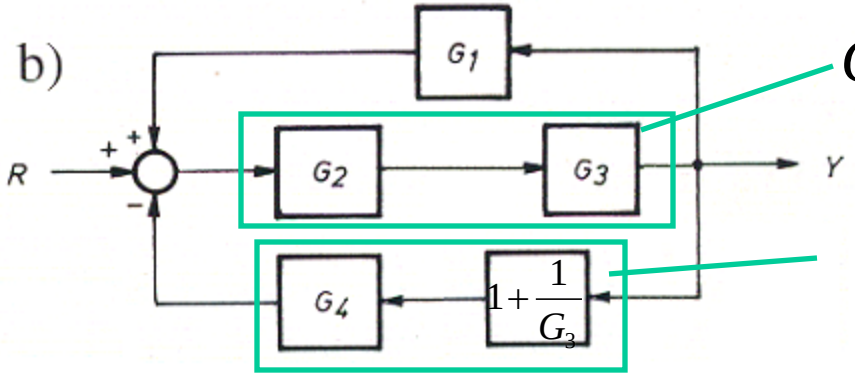
8.5 b Blockschemareduktion



parallell

$$1+\frac{1}{G_3}$$



serie

$$G_2 G_3$$

serie

$$G_4\left(1+\frac{1}{G_3}\right)$$

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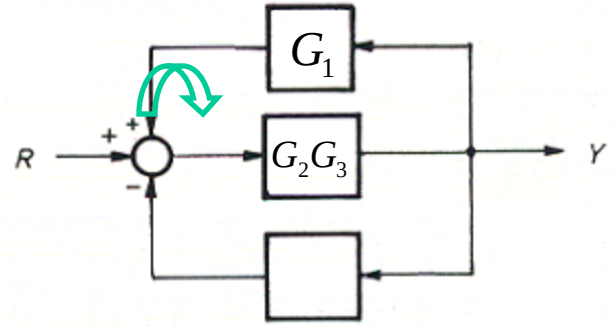
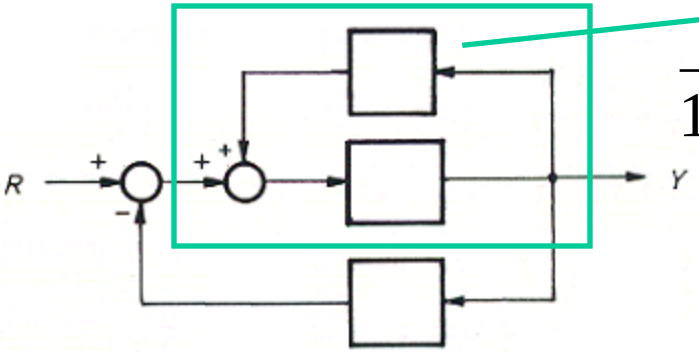


$$G_4\left(1+\frac{1}{G_3}\right)$$

positive feedback



$$\frac{G_2G_3}{1-G_1G_2G_3}$$

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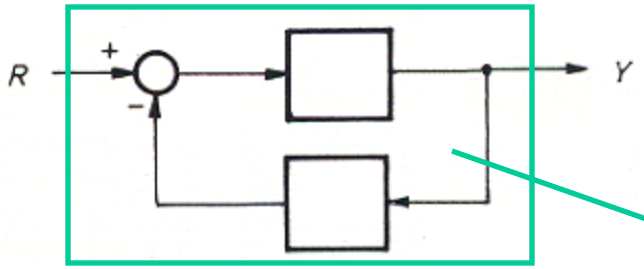
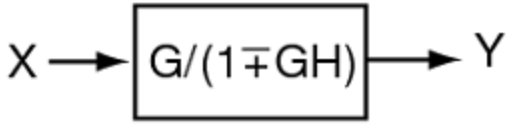
8.5 b Blockschemareduktion

$$\frac{G_2 G_3}{1 - G_1 G_2 G_3}$$



$$G_4\left(1+\frac{1}{G_3}\right)$$



negative feedback

$$\frac{\dfrac{G_2 G_3}{1 - G_1 G_2 G_3}}{1 + G_4\left(1+\dfrac{1}{G_3}\right)\cdot\dfrac{G_2 G_3}{1 - G_1 G_2 G_3}}$$

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8.5 b Blockschemareduktion

$$\frac{\dfrac{G_2G_3}{1-G_1G_2G_3}}{1+G_4\left(1+\dfrac{1}{G_3}\right)\cdot\dfrac{G_2G_3}{1-G_1G_2G_3}}=\frac{\dfrac{G_2G_3}{1-G_1G_2G_3}}{1+\dfrac{G_4G_3+G_4}{G_3}\cdot\dfrac{G_2G_3}{1-G_1G_2G_3}}\cdot\frac{G_3(1-G_1G_2G_3)}{G_3(1-G_1G_2G_3)}=$$

$$=\frac{G_2G_3\cdot\cancel{G_3}}{\cancel{G_3}(1-G_1G_2G_3)+G_2\cancel{G_3}(G_4G_3+G_4)}=\frac{G_2G_3}{1+G_2G_4-G_1G_2G_3+G_2G_3G_4}$$

$$G\left(\frac{Y}{R}\right)=\frac{G_2G_3}{1+G_2G_4-G_1G_2G_3+G_2G_3G_4}$$

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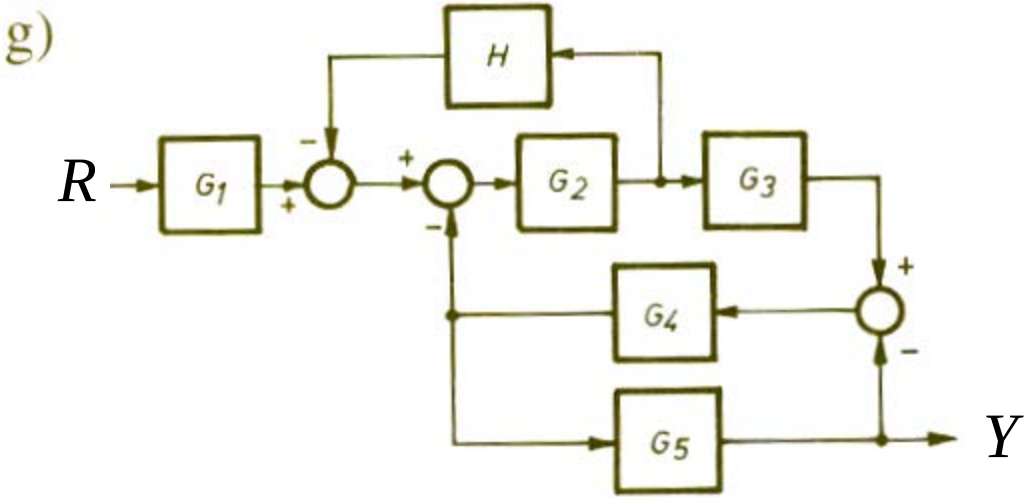
8.5 g Blockschemareduktion



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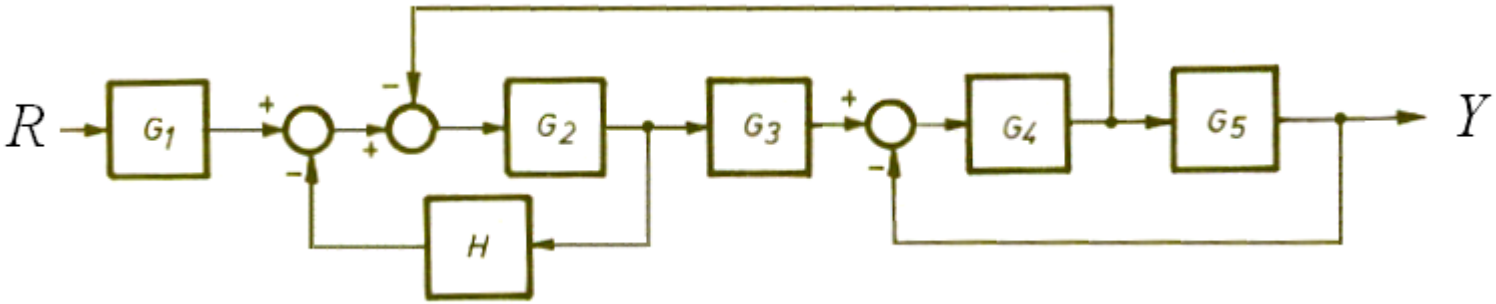
8.5 g Blockschemareduktion

Omritat – tydligare.



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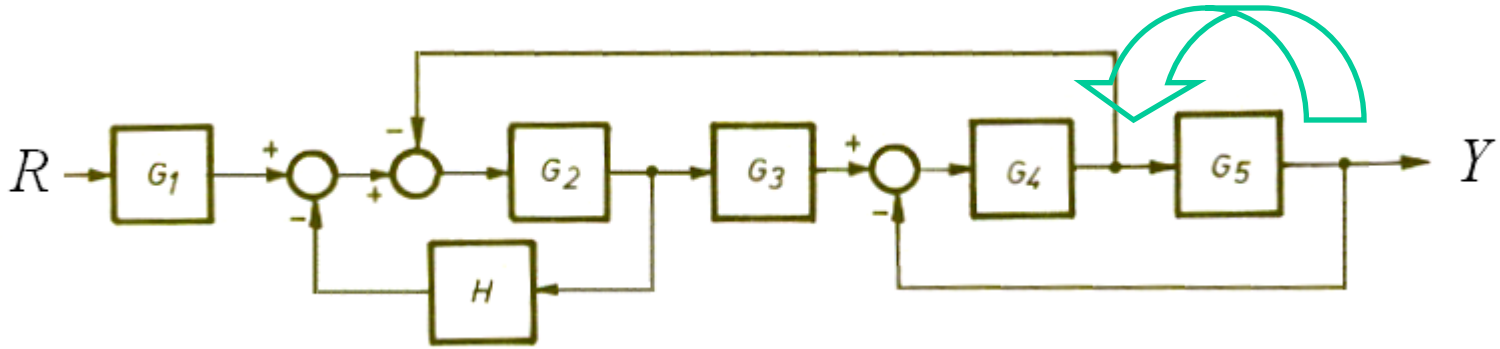
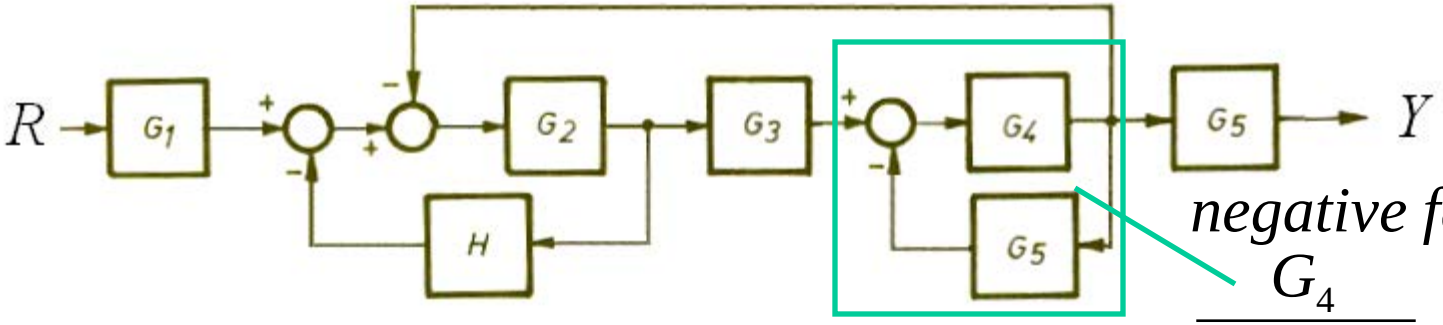
8.5 g Blockschemareduktion





negative feedback

$$\frac{G_4}{1+G_4G_5}$$

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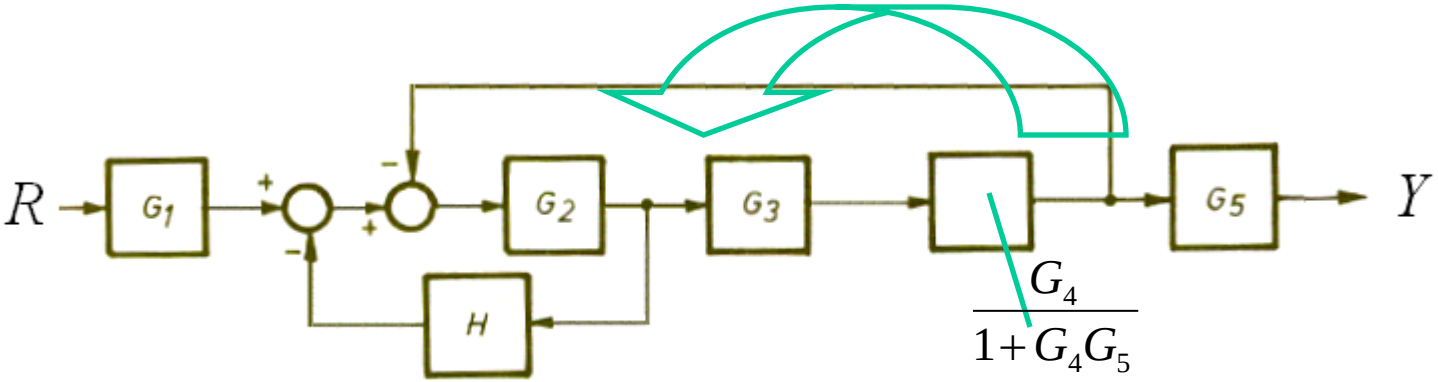
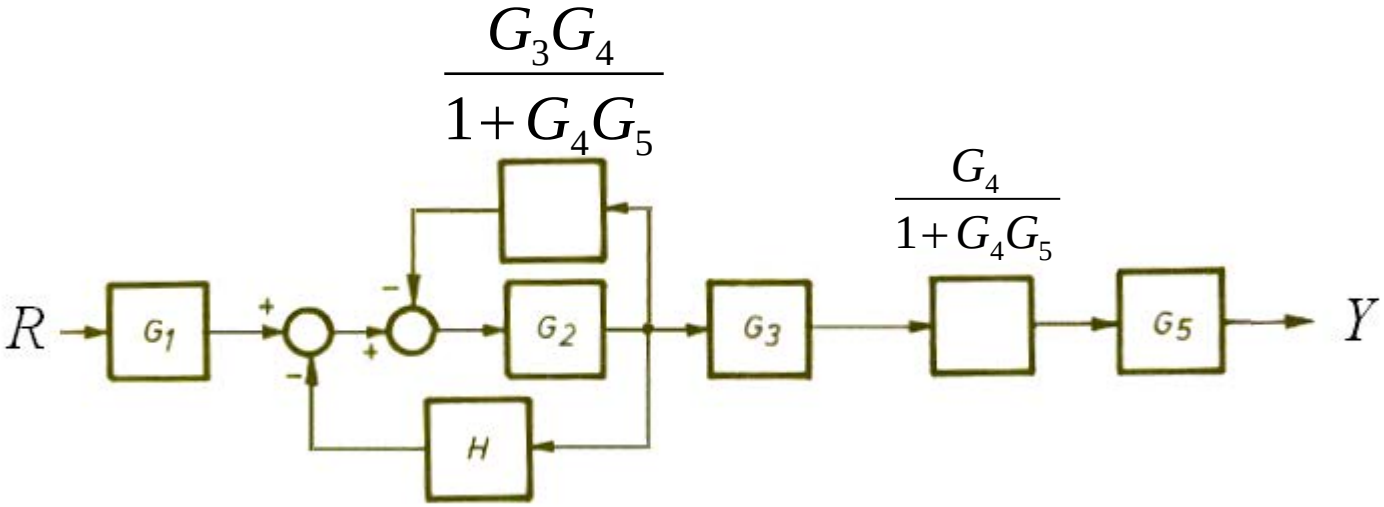
8.5 g Blockschemareduktion





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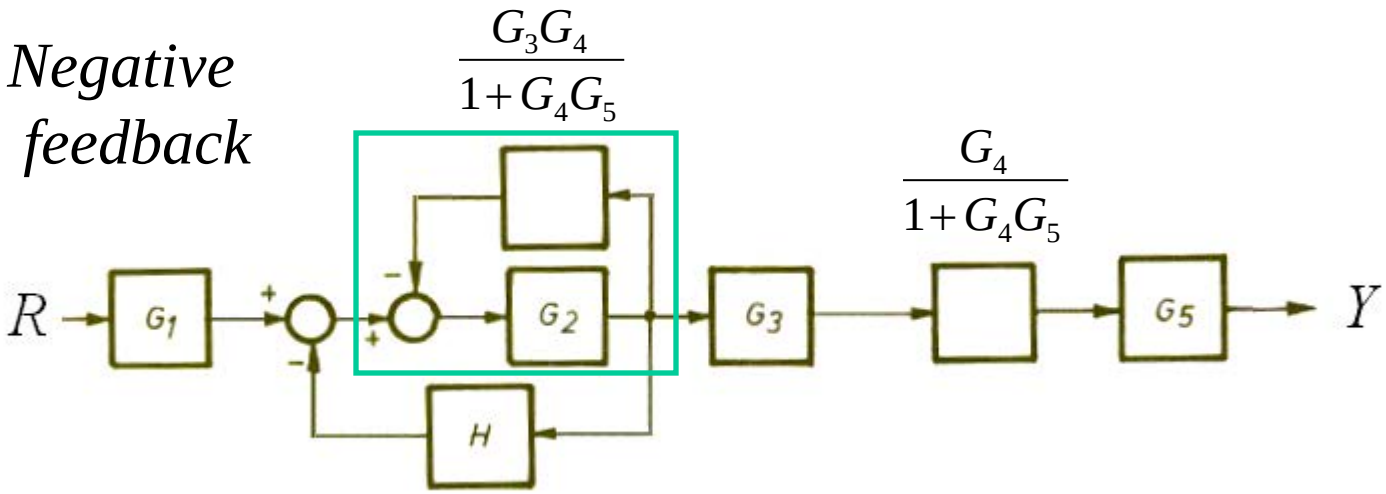
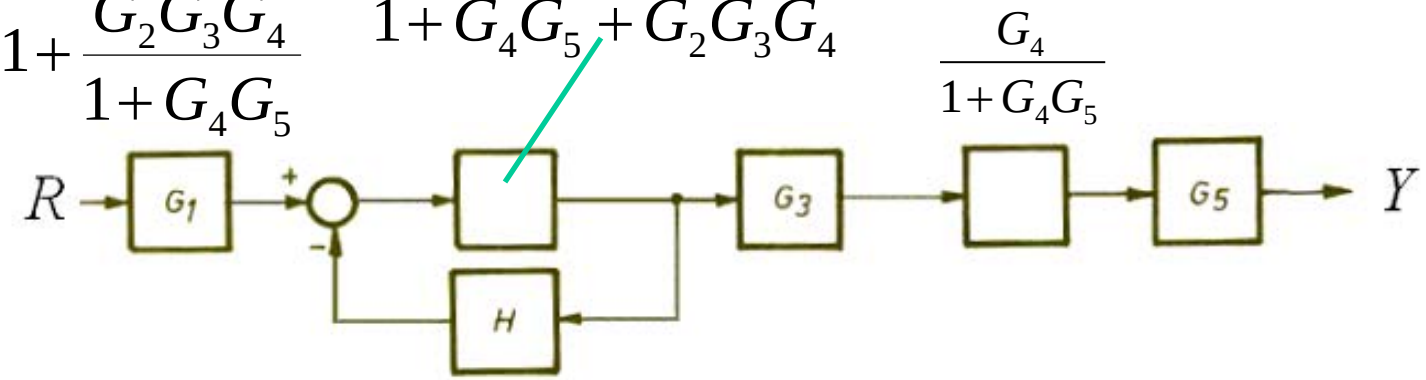
8.5 g Blockschemareduktion

Negative feedback



$$\frac{G_2}{1+\frac{G_2G_3G_4}{1+G_4G_5}} = \frac{G_2+G_2G_4G_5}{1+G_4G_5+G_2G_3G_4}$$



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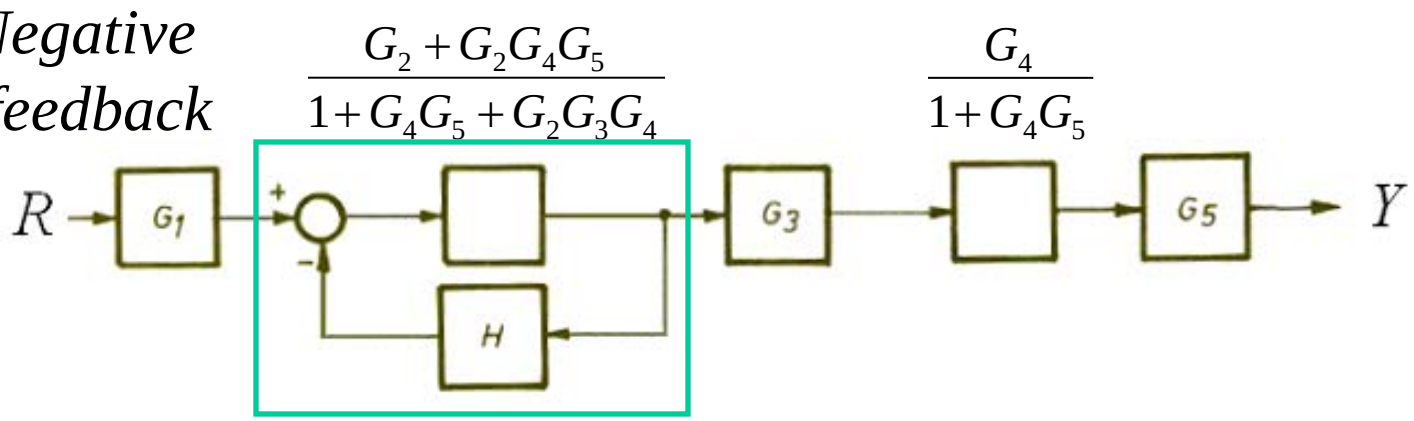
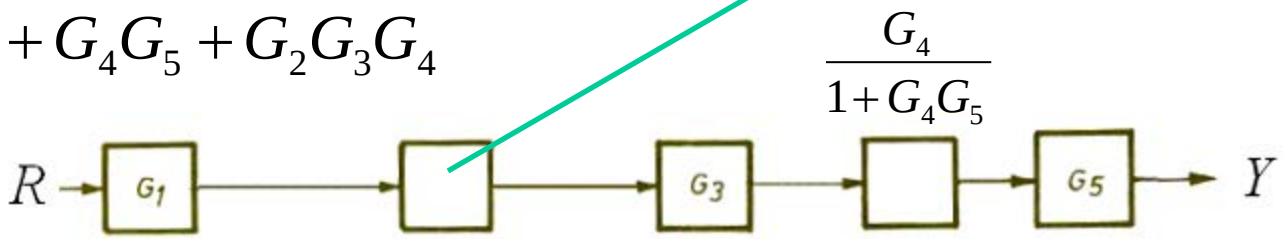
8.5 g Blockschemareduktion

Negative feedback



$$\frac{\dfrac{G_2 + G_2G_4G_5}{1 + G_4G_5 + G_2G_3G_4}}{1 + H \cdot \dfrac{G_2 + G_2G_4G_5}{1 + G_4G_5 + G_2G_3G_4}} = \frac{G_2 + G_2G_4G_5}{1 + G_4G_5 + G_2G_3G_4 + HG_2 + HG_2G_4G_5}$$



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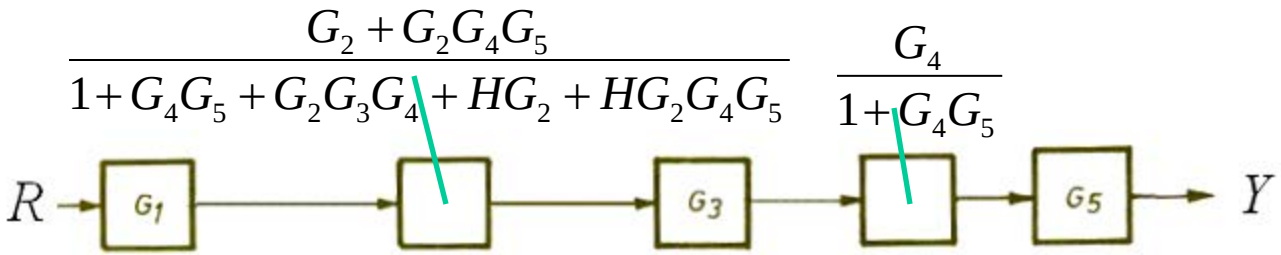
8.5 g Blockschemareduktion



$$G_1 \cdot \frac{G_2 + G_2G_4G_5}{1+G_4G_5+G_2G_3G_4+HG_2+HG_2G_4G_5} \cdot G_3 \cdot \frac{G_4}{1+G_4G_5} \cdot G_5$$

PUH!

$$\bullet\ \bullet\ \bullet \quad = \frac{G_1G_2G_3G_4G_5}{1+G_4G_5+HG_2+HG_2G_4G_5+G_2G_3G_4}$$

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