



Control automático

Tarea de investigación #01

Tema: Algebra de bloques

Profesor:

Ing. Erick Salas

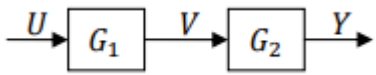
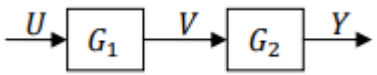
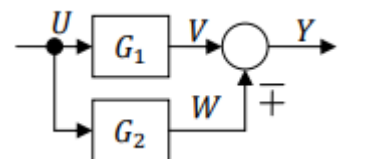
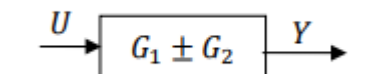
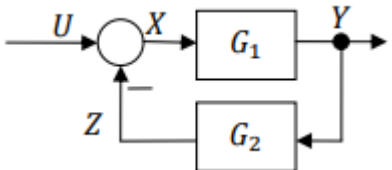
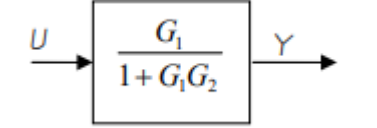
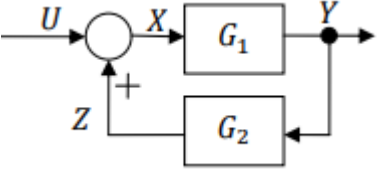
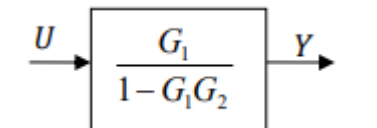
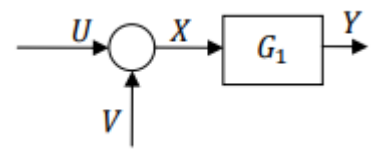
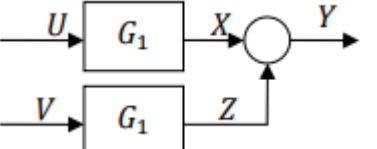
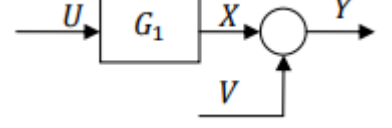
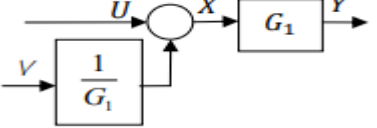
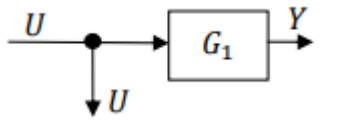
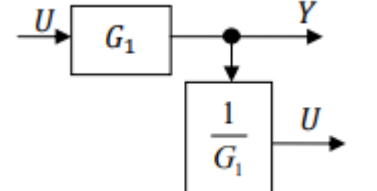
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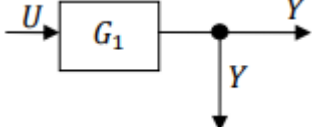

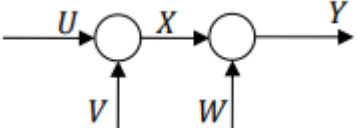
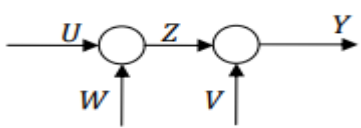
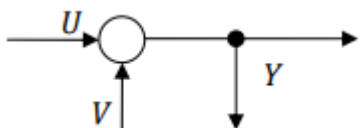
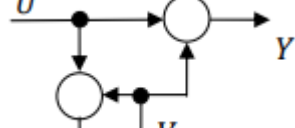
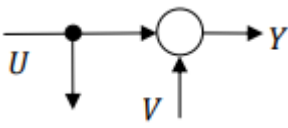
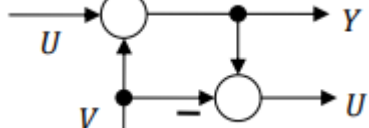
Moisés Romero H.

Fecha de Entrega: 22 de Mayo del 2018

## Algebra de bloques

El algebra de bloques es la herramienta utilizada cuando se tiene un sistema representado en varios bloques, esta nos permite representarlo en uno o más bloques equivalentes al sistema original

NOMBRE	BLOQUE	BLOQUES EQUIVALENTES	Formula que lo describe
Bloques en serie			$V = G_1 U; \quad Y = G_2 V$ $Y = (G_1 G_2) U$
Punto suma			$V = G_1 U; \quad W = G_2 U$ $Y = V \pm W$ $Y = (G_1 \pm G_2) U$
Retroalimentación negativa			$Z = G_2 Y; \quad Y = G_1 X$ $X = U - Z$ $Y = \frac{G_1}{1 + G_1 G_2} U$
Retroalimentación positiva			$Z = G_2 Y; \quad Y = G_1 X$ $X = U + Z$ $Y = \frac{G_1}{1 - G_1 G_2} U$
Movimiento de punto suma después de bloque			$X = G_1 U; \quad Z = G_1 V$ $Y = G_1 (U + V)$
Movimiento de punto suma antes del bloque			$X = G_1 U$ $Y = G_1 U + V$
Ramificación después de bloque			$Y = G_1 U$ $U = \frac{1}{G_1} Y$

Ramificación antes de bloque			$Y = G_1 U$
Redistribución de puntos suma			$X = U + V; \quad Z = U + W$ $Y = X + W = Z + V$ $Y = U + V + W = U + W + V$
Movimiento de punto de ramificación antes de punto suma			$Y = U + V$
Movimiento de punto de ramificación después de punto suma			$Y = U + V$ $U = Y - V$
Movimiento de punto de ramificación	