Homework G.11 - Solution

		Soludo	Ø
6.11	The	block diagram for the inner loop	4
		$\frac{\partial^{2}}{\partial s} = \frac{1}{2} \frac{1}$	
		->/kdos	
	When	-e /o - J _z + 2m _r d'	
	The	closed loop transfer Junehon in	
		O(s) bokpa Od(s) 52+ bokpa s+bokpa	
	The	Moreel loop cha- ey. so	
	Le		
	1Le	deand char eg is	
		S' + 25 w 5 + w. 2	

		50/2	(5)
//		Kpg = and 3.	
		$k_{0_{\delta}} = \frac{2 \int_{\delta} u_{n_{\delta}}}{b_{0}}$	
American Company of the Company of t	The Stock	diegen for the order loop so	
		$\frac{1}{3} \xrightarrow{5} \frac{1}{5} \xrightarrow{5} \frac{1}{5} \xrightarrow{7} \frac{1}{5} \xrightarrow{7} \frac{1}{5} \frac{1}{7} \xrightarrow{7} \frac{1}{5} \frac{1}{7} \frac{1} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7} \frac{1}{7$	-
		->/ko25)-	
	Le close	el loop trous for	
	Where	$b_1 = \frac{-F_0}{M_c + LM_r}$	
	The closed i	ing transfer function in	
	N 00 2 00	52+ (a, +b, koz)s + b, koz	
		3	

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5.11		
	Note that the OC-gar. is	
	kacz = 1	
	The closed loop there eg is	
	Del = 5' + (9, +6, ko,) s + b, kp.	
	The desired closed loop there say is	
	Que = 5 + 2 f w, 5 + w,	
	$k_{\rho_{z}} = \frac{\omega_{n_{z}}^{2}}{b_{i}}$	
	$k_{0z} = 25z \omega_{nz} - a$	
	Ь,	
The second secon	b ₆ = 20, 3253 b ₁ = -9.8/	
	fa, = 0.0667	
	6,0 = 2.75 frz = 8	
	1×0 = 6.372/ Wng = 0.2750	7
	kor = 0.1913 Kpz = -0.0072	
	koz = -0,0328	
	4	