0	0	$l_1 c_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$\frac{1}{2} r s_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$\frac{1}{2} r s_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$-l_1 c_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$
0	0	$l_1 s_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$-\frac{1}{2} r c_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$-\frac{1}{2} r c_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$	$-l_1 s_{\alpha-\varphi_p}(\dot{\alpha}-\dot{\varphi_p})$
0	0	0	0	0	0