	N_1^V	N_2^V	N_3^V	N_4^V
$\dot{\phi_1}$	-0.564	0.688	-0.895	0.869
$\dot{\phi_2}$	0.665	-0.933	0.870	-0.862
$\dot{\phi_3}$	-0.965	1.000	-0.916	0.879
$\dot{\phi_4}$	0.816	-0.829	0.801	-0.771