Joint coordinates from P1 to P2 Analytical vs numerical solution  $\dot{q_1}$  - analytical [rad/s]0.4 joint 1  $\dot{q}_1 - numerical$ [rad/s]0.2  $\ddot{q}_1 - analytical [rad/s^2]$  $\ddot{q}_1 - numerical [rad/s^2]$ -0.2 2 3 5 6 time [s]  $\times 10^{-3}$ 20  $\dot{q}_2$  - analytical [rad/s]joint 2 10  $\dot{q}_2$  – numerical [rad/s] $[rad/s^2]$  $\ddot{q}_2$  – analytical  $\ddot{q}_2 - numerical$  $\lceil rad/s^2 \rceil$ 0 2 5 6 time [s]  $\dot{q}_3$  - analytical [rad/s]0 0 <u>joi</u>ut 0.05-[rad/s] $\dot{q}_3$  - numerical  $\ddot{q}_3$  – analytical  $[rad/s^2]$  $\ddot{q}_3$  – numerical  $[rad/s^2]$ -0.1 2 3 5 6 7 time [s]