

عنوان مقاله:

Dynamics modeling of the MoorMaster unit and investigate the interaction between the moored ship and the MoorMaster

محل انتشار:

هفتمین همایش بین المللی صنایع فراساحل (سال: 1396)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Developed mooring unit, the MoorMaster, which replaces conventional mooring lines is addressed here. The hydraulics of the system have a strong deducting effects on the motions of the moored ship. MoorMaster act in two different states. In first state; mechanism controls transfer mechanism to suitable position and joint with ship. Second state is passive mechanism state that lock in last position and the controller is passive so that springs and dampers appliance in mechanism carry passively apply forces from ship to mechanism. First; we defined state variables and According to the Lagrange equations, dynamics model of MoorMaster is extracted using Matlab Toolboxes and dynamics numerical simulations will be done. Then design a Controller to control the mechanism to stick to the vessel's body. Second state; investigate the interaction forces/moments in between the moored ship and the mechanism. have considered the simplest case, where the ship is located just under the MoorMaster force. Ship motion equations solved using Lagrange equations. And then design a controller that gives the ability to MoorMaster which exert forces and torques suitable in the freedom direction, per ship behavior. The results are given in a series of figures

کلمات کلیدی:

Mooring, MoorMaster units, Shore-based mooring, Vacuum based automated mooring technology, MoorMaster automated mooring

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