

Robust control of fuel gas supply system for LNG ship

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The robust control system of fuel gas supply system(FUGAS) of an LNG ship is developed. The supply of fuel gas is disturbed by time-varying loads to engine and the amount of fuel gas recycled to the LNG tank to maintain its pressure. PI controllers tuned by Hägglund-Åström method manipulates the opening of two valves, i.e, the fuel gas flows to engine and to recycle stream. As a result, the flow rates of fuel gas in FUGAS could be successfully controlled even with drastic changes in the disturbances. The control system could also find the minimum tank levels required for normal operation of the ship at various conditions.