

Selecting the best control configuration for Propane Precooled Mixed Refrigerant Process

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Control configuration describes how every variable interact to each other and is significantly affect the performance of the process. Liquefaction is the heart of the LNG processing plant. Therefore selecting the manipulated and controlled variables and how to appropriately pair them is essential. Relative Gain Array (RGA) analysis is a common tools used in industry for selecting the best control structure.

This research is intended to analyze the best pairing between manipulated and controlled variable in Propane Precooled Mixed Refrigerant (C3MR) using RGA analysis, in order to achieve the best control configuration for this particular process. The RGA analysis requires information of steady-state gains which describe the response of controlled variable due to some changes on manipulated variable and vice versa.

The steady-state gains of this particular process are obtained through transfer function identification procedure based on data from dynamic model of the C3MR liquefaction process.