Abstract

In this study and the development of auto tuning control in a perfusion system for Extracorporeal Membrane Oxygenation (ECMO) support is described. ECMO is a temporary life support system used for patients whose Heart or Lungs is not working properly. This system must be managed by a Perfusionist to maintain proper blood flow and blood pressure to the patient. In this paper, the control of blood-gas process of an ECMO system is modeled in a detailed approach in MATLAB Scripts. Experimental results show a good agreement in static and frequency domain measurements.

References

A Study and Development of Auto Tuning Control in a Perfusion System for Extracorporeal Membrane Oxygenator Systems and Control October 3-5, 2012. Dubrovnik, Croatia

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Index Terms

Computer Science
Applied Sciences

Keywords

Extracorporeal Membrane Oxygenation (ECMO) cardio Pulmonary Blood Gases (CPB)
partial Oxygen (pO2)
partial Carbon dioxide pressure (pCO2).