

## **Modelling of cupping suction system based on system identification method**

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### **ABSTRACT**

The detection of cupped suction system plants using a standard model based on a modified Sine Cosine Algorithm (mSCA) is presented in this research. According to the findings, the mSCA-based technique can produce optimal parameters of model that provides an identified output response comparable to the actual experiment's cupping suction system output, with an integral square error for various random input surfaces and its objective function. The input and output data were used to create this modelling output variable of the cupping suction system detected by connecting the differential pressure sensor to the cup. In contrast, the input variable is determined by the speed of the pump applied in various locations. The transfer function model also makes use of the continuous-time transfer function.

### **KEYWORDS**

System identification; Data-driven; Modelling; Cupping system

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