# FLUID STATE ESTIMATION SYSTEM, LEARNING DEVICE, LEARNING PROGRAM, ESTIMATION DEVICE, AND ESTIMATION PROGRAM

[TECHNICAL FIELD]

**[0001]** The present disclosure relates to technology for estimating a state of a fluid.

[BACKGROUND ART]

**[0002]** Fluids such as gases and liquids are handled in refineries and chemical plants. If it is possible to grasp a state of a fluid inside an apparatus, a device, a pipe, and the like constituting a plant, it is possible to detect an abnormality during the operation of the plant and to improve operation efficiency by accurately controlling the apparatus and the like. In addition, when a new plant is constructed, it is possible to design a plant in which an abnormality hardly occurs and operation efficiency is high with reference to the state of the fluid acquired during the operation of the existing plant.

**[0003]** As technology for estimating the state of the fluid in the apparatus or the like, there is, for example, computational fluid dynamics (CFD) or the like (see, for example, Patent Literature 1).

[PRIOR ART DOCUMENTS]

[Patent Literature]

**[0004]** [Patent Literature 1] JP 2020-63955 A

[SUMMARY OF INVENTION]