

*Abstract:*



「鉄鋼」の環境と社会

Figure 1: Comparison of the results of the finite element analysis and the experimental results.

Photo 3: Comparison of the results of the finite element analysis and the experimental results.

Figures 1: Comparison of the results of the finite element analysis and the experimental results.

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$$\sigma_{\Delta} \leq \sqrt{f_{\Delta}} / \dots$$

$$X \dots \mu_{\Delta}$$

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Journal of Fluid Engineering

## 4.2 Experimental

The experimental setup for the study of the flow characteristics of a fluid through a pipe is shown in Figure 1. The flow is driven by a pump and the pressure drop is measured by a differential pressure transducer. The flow rate is measured by a flowmeter. The temperature of the fluid is measured by a thermocouple. The flow is visualized by a laser sheet and the velocity field is measured by a laser Doppler velocimeter (LDV). The flow is turbulent and the Reynolds number is in the range of 10,000 to 100,000. The pipe diameter is 10 mm and the length is 1 m. The flow is fully developed and the velocity profile is measured at different axial positions. The results show that the velocity profile is parabolic and the maximum velocity is in the center of the pipe. The pressure drop is proportional to the flow rate and the temperature of the fluid is constant. The flow is fully developed and the velocity profile is parabolic. The maximum velocity is in the center of the pipe. The pressure drop is proportional to the flow rate and the temperature of the fluid is constant.

## 4.3 Results

