

### **Experiment and Numerical Calculation of Flow Characteristics of Hot Gas in Tunnel Fire**

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Mountain tunnels in Japan are not equipped ventilation facilities. Therefore, it is important to establish an appropriate guideline for evacuation of the passengers in case of an emergency fire in a tunnel. We are developing a method for predicting the flow of hot gas when a tunnel fire occurs since the hot gas is one of the greatest impediments to the passenger evacuation. Fire tests were conducted in small-scale tunnel with a rectangular cross-section, and the three-dimensional simulations were carried out under the same condition as the fire tests above. As a result, it was confirmed that the temperature distribution in the tunnel under the natural ventilation by the simulations almost agrees with that by the experiments.