

### **Injury Evaluation of Passengers Seated in the Transverse Seat in the Event of a Collision Accident**

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In the event of a level crossing accident, train passengers seated in a rotating and reclining seat have a risk of getting injured due to collision with seats in front of them. In order to evaluate the passenger's kinematic behavior and injury quantitatively in this situation, the authors carried out impact tests using crash-test dummies. As a result, it was clarified numerically that the most important passenger's part to which attention should be paid was the femur, and the head and the chest had a low risk of serious injury. However, if the impact acceleration was increased, the forward seat was not able to catch the passengers because of its revolution or deformation and there was a possibility of injury caused by their jumping out forward.