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Determining the initial impact of rear-end collisions by trace evidence left on the vehicle from tires: A case report

Title Page for FSJ01

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Highlights FSI-D-17-00716

- Examining the front wheel arch, we could find the traces caused by the tire.
- We could determine the status of tires rotating upon impact by the impression.
- The surface traces can help prove the tires been changed direction.
- The result ties in with other evidence to establish that the driver was drowsy.

Abstract

If an automobile happens to crash into the back of another vehicle while travelling at high speeds, both vehicles will be seriously damaged. Consequently, it is not easy to reconstruct the initial collision state between the two vehicles or determine whether or not the risk perception of the driver is normal. The entire picture of the accident cannot be fully understood and thus clarifying the relevant legal responsibility is difficult. The trace evidence of tires, such as pattern, direction, and impression examination as well as other characteristics, can be carefully observed and used as evidence in accident reconstruction. A case report of a fatal collision involving a bus crashing into the frame of a full trailer on a freeway is examined in this study. The police agency used the characteristics of the trace evidence of the bus tires to

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