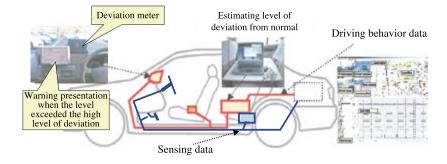
Do You Know How You Drive a Car?

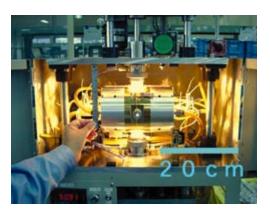
In order to understand how people drive a car in a real road environment, quantitative behavioral data of a hundred drivers were collected using equipped vehicles. The collected data were stored to establish a driving behavior database for convenient use in industry. We also have applied the database to develop a driving assistance system based on the driver's behavior. Focusing on deceleration maneuver when approaching to an intersection with a stop sign, we identified range of the normal driving behavior. Based on a concept that the driving risk increases when a driving situation is out of the range of the normal driving, an onboard driving assistance system has been developed that gives a caution information to the driver when the driver behaves differently from the normal driving.



The on-board system evaluates the level of deviation from the normal driving behavior when approaching to an intersection. A large number of the braking maneuver data is stored in the on-board computer and it is compared with the sensed braking maneuver. When the maneuver at the moment is out of range of normal driving, the alerting signal is given to the driver to inform that the driving risk is increasing.

Development of the Desk-Top Type Crystal Growth Furnace

We have successfully developed a desk-top type image furnace for crystal growth, smallest in the world, enabling to grow synthetic single crystals quickly for the exploration of inorganic materials and the creation of artificial jewel, such as ruby, in collaboration with NEC Machinery Corporation. The equipment can be driven by a household power outlet (100 V, 15A AC in the case of Japan) to heat up raw materials to 2,000 °C in 5 min at the fastest. In this way, you will be able to make a single crystal or artificial jewel wherever and whenever you want. The equipment will be commercialized by NEC Machinery Corporation soon.



The developed furnace which consists of double elliptical mirrors with halogen lamps

Motoyuki AKAMATSU

Institute for Human Science and Biomedical Engineering e-mail: akamatsu-m@aist.go.jp AIST Today Vol. 4, No.6 (2004) 11

Shinichi IKEDA

Nanoelectronics Research Institute e-mail: ikeda-shin@aist.go.jp AIST Today Vol. 4, No.6 (2004) 18