

Record of Dynamic Changes of Odors Using an Odor Recorder

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We have developed the system called an *odor recorder* for reproducing the smell recorded using the odor sensing system. The recipe of the odor, where the sensor-array output pattern of a target odor matches that of an internally blended odor using multi-input multi-output (MIMO) feedback control, is recorded. It can be reproduced using an odor blender. The odor recorder has the capability of dynamic change in the odor in addition to the ability of recording the static recipe of the odor. Here, several techniques such as a neural network with feedback error learning, the real-time reference method and its modified technique for speeding up are described. The experiments revealed that the real-time reference method had the robustness against the environmental change. Moreover, the recording of the dynamic change of the odor over a few seconds was successfully performed using that method.

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