

**Searching for Sources of Unpleasant Odors in Men's Restrooms in Railway Stations  
and Verifying the Effectiveness of Countermeasures to Reduce Them**

Takashi KYOTANI    Tamami KAWASAKI    Akiko KAMEDA    Tsuyoshi UEDA

Unpleasant odors in restrooms in railway stations and on trains are one of the many complaints from railway customers, so there is a need to reduce such odors. We are investigating the sources of ammonia, one of the main unpleasant odorous compounds in public restrooms, in men's restrooms in railway stations. For the investigation, we prototyped a portable, highly sensitive ammonia measuring instrument. We used this instrument to search for the sources of ammonia in men's restrooms in railway stations and confirmed the difference in concentration of ammonia depending on cleaning methods and seasons. In addition, we verified the effectiveness of countermeasures to reduce unpleasant odors implemented by cleaning companies.