

1.127 Measurements of of HONO, NO₂ and NH₃ by a filter pack method in Ho Chi Minh City Vietnam and Osaka, Japan.

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Abstract:

HONO/NO₂ ratios were measured at 3 points in Ho Chi Minh City, Vietnam by a filter pack method from 26 to 31 August, 2017. HONO was collected at 4.0 L/min with NaCl impregnated filter to remove HNO₃ gas, and two Na₂CO₃ impregnated filters to collect HONO and correct HONO concentration. NO₂ was collected at 0.1 L/min with two stages of triethanol amine impregnated filters. It is found that the ratios were 0.077 - 0.164 and much higher than those in Sakai, Japan (about 0.042 - 0.12). The particle concentrations in Ho Chi Minh were very high, and it is speculated that the HONO is formed efficiently on the particles from NO₂. The traffic volume were about 5,000 to 10,000 vehicles per hour on highly traveled road in day time, and more than 90 % were motor bikes. The differences in traffic volume and type of vehicle were possible to relate the high HONO/NO₂ ratio. Further, NH₃ concentrations were measured with phosphoric acid impregnated filters at 5 points by the filter pack method and about 50 points by the passive samplers. We found that average NH₃ concentrations in Ho Chi Minh in this period was about 40 ppb and were also very high compared to that in Japan.