실제 건물내 환기 load 변화를 고려한 실내공기질 환기제어시스템의 최적 설정치 결정 연구

<u>남기전</u>, Qian Li, Loy-Benitez Jorge, 유창규[†]

경희대학교

(ckyoo@khu.ac.kr[†])

The ventilation loads in underground subway stations are time-varying because of the subway schedule, rush hours (morning and evening), variation of outdoor air quality, and ordinary time zone is varied in stations according to time zones. The objective of this study is to develop a ventilation control strategy based on the time-varying ventilation loads for maintaining healthy indoor air quality (IAQ) and minimizing energy demand of the ventilation system under various outdoor condition. Optimal set points of the control system under time-varying loads are determined by the multi-objective genetic algorithm (MOGA) at various time intervals. The proposed real-time ventilation control system can reduce 10% energy from ventilation system as well as keep the platform PM10 at a health.