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Adalah benar sebagai penulis korespondensi (corresponding author) pada Artikel yang berjudul : Mechanical Ventilation Control Based on Estimated occupancy using a Carbon Dioxide Sensor, yang terbit pada Jurnal Teknik, Universitas Diponegoro. dengan link artikel dapat ditemukan di : <https://ejournal.undip.ac.id/index.php/teknik/article/view/33416>.

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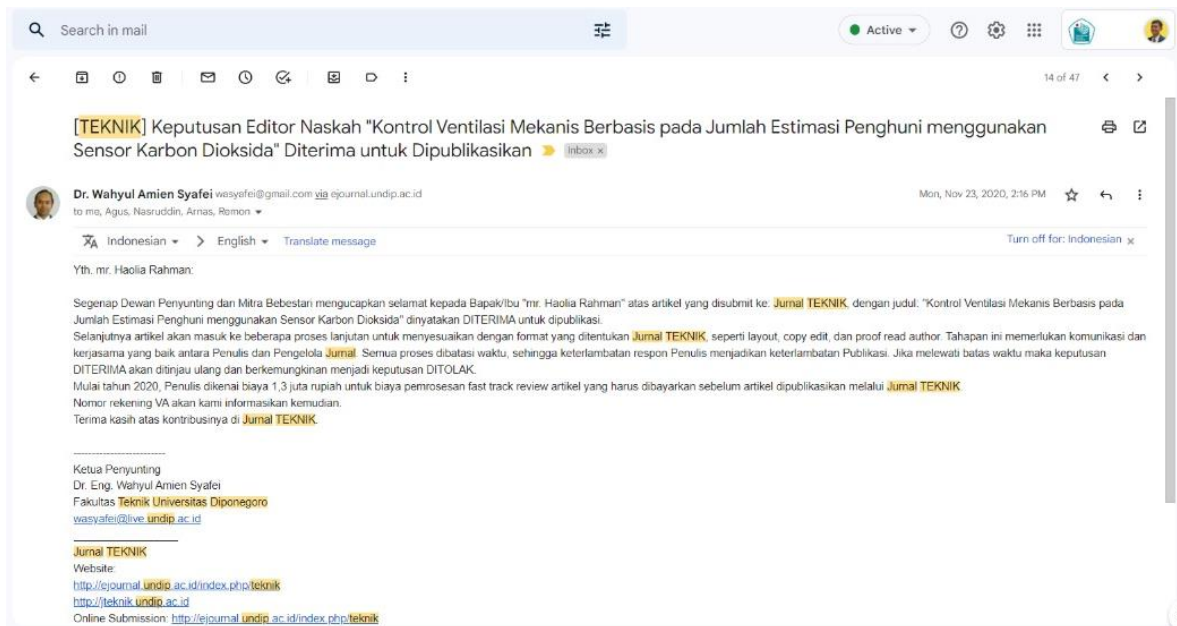
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[TEKNIK] Keputusan Editor Naskah "Kontrol Ventilasi Mekanis Berbasis pada Jumlah Estimasi Penghuni menggunakan Sensor Karbon Dioksida" Diterima untuk Dipublikasikan

Dr. Wahyul Amien Syafei wasyafei@gmail.com via ejournal.undip.ac.id
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Segenap Dewan Penyunting dan Mitra Bebestari mengucapkan selamat kepada Bapak/Ibu "mr. Haolia Rahman" atas artikel yang disubmit ke: **Jurnal TEKNIK**, dengan judul: "Kontrol Ventilasi Mekanis Berbasis pada Jumlah Estimasi Penghuni menggunakan Sensor Karbon Dioksida" dinyatakan DITERIMA untuk dipublikasi.

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Terima kasih atas kontribusinya di **Jurnal TEKNIK**.

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Title and Abstract

Title

Mechanical Ventilation Control Based on Estimated occupancy using a Carbon Dioxide Sensor

Abstract

Ventilation is an important aspect to maintain good indoor air quality in a building. However, excessive ventilation causing high energy consumption of the HVAC system. The ASHRAE Standard provides a guideline to set the ventilation rate that depends on the occupants' number and space. Thus, quantification of the number of occupants is required to regulate the ventilation rate. In this study, the estimated number of occupants was estimated using a Bayesian MCMC method based on CO₂ levels. The mass balance equation of the CO₂ is used as a model for the calculation of Bayesian MCMC. The Bayesian method for estimating the occupants' number is tested in a 96,7 m³ office room equipped with a ventilation system. Thus the occupancy estimation and control of ventilation can be done in real-time. The test also includes conventional ventilation control based on CO₂ levels directly without converting to the occupants' number. The ventilation rate based on the number of occupants at the present test chamber refers to ASHRAE 62.1. The test results show that ventilation controlled by the estimated number of occupants using the Bayesian method successfully conducted with ventilation rate per occupant closer to the ASHRAE 62.1 standard over conventional ventilation method

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occupancy estimation; ventilation control; Bayesian MCMC; carbon dioxide, mass balance equation

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