

## Synopsis

## Soham Sachin Purohit Indian Institute of Technology Bombay

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## "Effect of Ceiling Fan on the Ventilation of Nuclear Lab, IIT Bombay"

A previous ventilation analysis of the Nuclear Lab, IIT Bombay revealed poor ventilation conditions which did not meet the safety requirements for preventing COVID transmission. Solutions in the form of installation of exhaust fans at optimum locations along with open door/window configurations were proposed. This project extended this study to the use of a ceiling fan as a cost-effective alternative and performed a comparison with the previous study. The results obtained showed comparable results to the previous study.

## References

- [1] Wilcox, D. C. (1998). Turbulence modeling for CFD. La Canada, Calif: DCW Industries.
- [2] Nguyen, V.-B., Do, Q.-V., & Pham, V.-S. (2020). An OpenFOAM solver for multiphase and turbulent flow. In Physics of Fluids (Vol. 32, Issue 4, p. 043303). AIP Publishing.
- [3] OpenFOAM Documentation for Rotating Mesh
- [4] Turbulence Modeling in OpenFOAM
- [5] Cyclic Arbitrary Mesh Interface (AMI) OpenFOAM Documentation