Stanford

Akhil Nekkanti

Physical Science Research Scientist, Mechanical Engineering - Center for Turbulence Research

Bio

ACADEMIC APPOINTMENTS

- Physical Science Research Scientist, Mechanical Engineering - Center for Turbulence Research

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Physical Society (APS) (2019 - present)
- Member, AIAA (2020 - present)

PROFESSIONAL EDUCATION

- B. Tech, Indian Institute of Technology, Ropar , Mechanical Engineering (2016)
- M.S., University of California San Diego , Mechanical and Aerospace Engineering (2018)
- Ph.D., University of California San Diego , Mechanical and Aerospace Engineering (2023)

LINKS

- Personal Website: https://sites.google.com/view/akhilnekkanti/home?authuser=1
- Google Scholar: https://scholar.google.com/citations?user=qOpT0w0AAAAJ&hl=en&oi=ao
- Linkedin: https://www.linkedin.com/in/akhil-nekkanti-7231357b/

Publications

PUBLICATIONS

- **Nonlinear dynamics of vortex pairing in transitional jets** *JOURNAL OF FLUID MECHANICS*
  Nekkanti, A., Colonius, T., Schmidt, O. T.
  2025; 1018
- **Nonlinear dynamics of vortex pairing in transitional jets** *ARXIV*
  Nekkanti, A., Colonius, T., Schmidt, O.
  2024
- **Large-scale streaks in a turbulent bluff body wake** *JOURNAL OF FLUID MECHANICS*
  Nekkanti, A., Nidhan, S., Schmidt, O. T., Sarkar, S.
  2023; 974
- **Gappy spectral proper orthogonal decomposition** *JOURNAL OF COMPUTATIONAL PHYSICS*
  Nekkanti, A., Schmidt, O. T.
  2023; 478
- **Frequency-time analysis, low-rank reconstruction and denoising of turbulent flows using SPOD** *JOURNAL OF FLUID MECHANICS*
  Nekkanti, A., Schmidt, O. T.
  2021; 926

- **Modal Analysis of Acoustic Directivity in Turbulent Jets** *AIAA JOURNAL*
  Nekkanti, A., Schmidt, O. T.
  2021; 59 (1): 228-239

- **Explanations of influences of differential diffusion on flame-temperature variations in usual and inverse jet flames** *COMBUSTION AND FLAME*
  Nekkanti, A., Sanchez, A. L., Williams, F. A.
  2019; 200: 262-264

- **Comparative study of the simulation ability of various recent hydrogen combustion mechanisms in HCCI engines using stochastic reactor model** *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*
  Maurya, R., Akhil, N.
  2017; 42 (16): 11911-11925

- **Development of a new reduced hydrogen combustion mechanism with NO_x and parametric study of hydrogen HCCI combustion using stochastic reactor model** *ENERGY CONVERSION AND MANAGEMENT*
  Maurya, R., Akhil, N.
  2017; 132: 65-81

- **Numerical investigation of ethanol fuelled HCCI engine using stochastic reactor model. Part 2: Parametric study of performance and emissions characteristics using new reduced ethanol oxidation mechanism** *ENERGY CONVERSION AND MANAGEMENT*
  Maurya, R., Akhil, N.
  2016; 121: 55-70

- **Numerical investigation of ethanol fuelled HCCI engine using stochastic reactor model. Part 1: Development of a new reduced ethanol oxidation mechanism** *ENERGY CONVERSION AND MANAGEMENT*
  Maurya, R., Akhil, N.
  2016; 118: 44-54