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Dept. of Aerospace
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Expertise areas:

- Wind turbine rotor aerodynamics
- Tip vortex and boundary layer active flow control
- Wind turbine wake aerodynamics

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Recent Projects:

“Experimental Investigation of Active Tip Vortex Control Using Tip Injection in Horizontal Axis Wind Turbines”, Grant No: 112M105, Funding Agency: TUBITAK.

“Development of a GPU Based Fast 3D Unsteady Freewake Vortex Solver”, Grant No: 7120764, Funding Agency: TUBITAK. Joint Project with Aerotim Engineering Ltd.

“Analytical and Experimental Investigation of Wind Characteristics of Long Span Bridge Cross-sections”, Grant No: 110M799, Funding Agency: TUBITAK.

“Experimental Investigation of the Effects of Chordwise Modulated Pulsed Tip Injection on Tip Vortex Aerodynamics and Control”, Grant No: 108M232, Funding Agency: TUBITAK.

Recent Publications:

- Abdulrahim, A., Anik, E., Ostovan, Y., Uzol, O., 2016, “Effects of Tip Injection on the Performance and Near Wake Characteristics of a Model Wind Turbine Rotor,” *Renewable Energy*, Vol. 88, April 2016, p73-82.
- Mercan, B., Dogan, E., Ostovan, Y., Uzol, O., 2015, “Effects of Camberwise Varying Tip Injection on Loss and Wake Characteristics of a Low Pressure Turbine Blade,” *International Journal of Heat and Fluid Flow*, doi:10.1016/j.ijheatfluidflow.2015.04.008, Volume 54, August 2015, Pages 119–130.
- Shojaee, S. M. N., Uzol, O., Kurc, O., 2013, “Atmospheric Boundary Layer Simulation in a Short Wind Tunnel,” *International Journal of Environmental Science and Technology*, Published online Nov 2013. DOI: 10.1007/s13762-013-0371-4.
- Yavrucuk, I., Bakir, M., Uzol, O., 2013, “Mathematical Modeling of the NOTAR Anti-Torque System for Flight Simulation,” *Journal of The American Helicopter Society*, Vol. 58, No. 2, pp. 1-9.
- Sezer-Uzol, N., Uzol, O., 2013, “Effect of Steady and Transient Wind Shear on the Wake Structure and Performance of a Horizontal Axis Wind Turbine Rotor,” *Wind Energy*, Vol. 16, No. 1, pp. 1-17, DOI: 10.1002/we.514.
- Ozgen, S., Uzol, O., 2012, “Investigation of the linear stability problem of electrified jets, inviscid analysis,” *ASME Journal of Fluids Engineering*, Vol. 134, September 2012, pp. 091201-1-9. [DOI: 10.1115/1.4007157].
- Kurc, O., Kayisoglu, B., Shojaee, S. M. N., Uzol, O., 2012, “Investigation of Wind Effects on High-Rise Buildings Through Wind Tunnel Testing,” *Teknik Dergi, Technical Journal of the Turkish Chamber of Civil Engineers*, Vol. 23, No. 4, pp. 6163-6186.