

Special Issue

UHBR Engine and Ducted Propulsor Noise Reduction Technology for Future Aircraft

Message from the Guest Editors

Ultra-high bypass ratio (UHBR) engines and ducted propulsors are indispensable power devices for future aircraft. For UHBR engines and ducted propulsors, the forward and afterward radiating fan noise is one of the most important noise sources. Three primary noise sources of the fan are the rotor-stator interaction tonal noise, turbulence broadband noise and shock noise. Advanced noise reduction technology for fans could contribute significantly to future ultra-quiet engines and aircraft. In order to further reveal noise generation mechanisms and reduce noise pollution, it is urgent to conduct systemic research and develop advanced noise reduction technologies for UHBR engines and ducted propulsors. Potential topics include, but are not limited to:

- The noise characteristics of a ducted fan;
- Fan noise prediction;
- Fan noise reduction;
- The advanced computational aeroacoustics method;
- The advanced computational aerodynamics method;
- The advanced noise measurement method.

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