Computational methods to characterize panel loading conditions for accelerated testing

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Methodology

• Solution of Navier-Stokes equations using **FEniCS**
• Traction is measured along the surface of a downstream panel
• **Wind speed** at panel height and **panel angle** are easily adjustable inputs
Fluid Simulation and Panel Loads at $\theta = +30^\circ, U_{ref} = 1m/s$
Results: Amplitude and Frequency
Concluding Remarks

• Currently constructing 3D simulations to verify these trends and loading magnitudes.
• These **amplitudes** and **frequencies** will be used to carry out accelerated experiments designed to reproduce the effects of long-term field exposure.
Thank You

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