Title: Modeling Cough Droplets in Cabin Environments: How simulation can increase safety in air-travel

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Abstract: Improving the safety of air travel is of the utmost importance to the aerospace industry. Although the exact mechanism of the current pandemic transmission is not fully understood, integrators are leveraging computational methods to understand the behavior of coughs in an enclosed environment. To improve the fidelity of these models requires a detailed representation of the physics of the human cough including the distribution and velocities of droplets, evaporation of the water content, the impingement of the droplets of nearby surfaces, and the impact of gravity on the propagation. In this presentation, we will discuss the current state of the art of cough modeling and the extension to air cabins as well as the impact of a standard mask on droplet transmission.