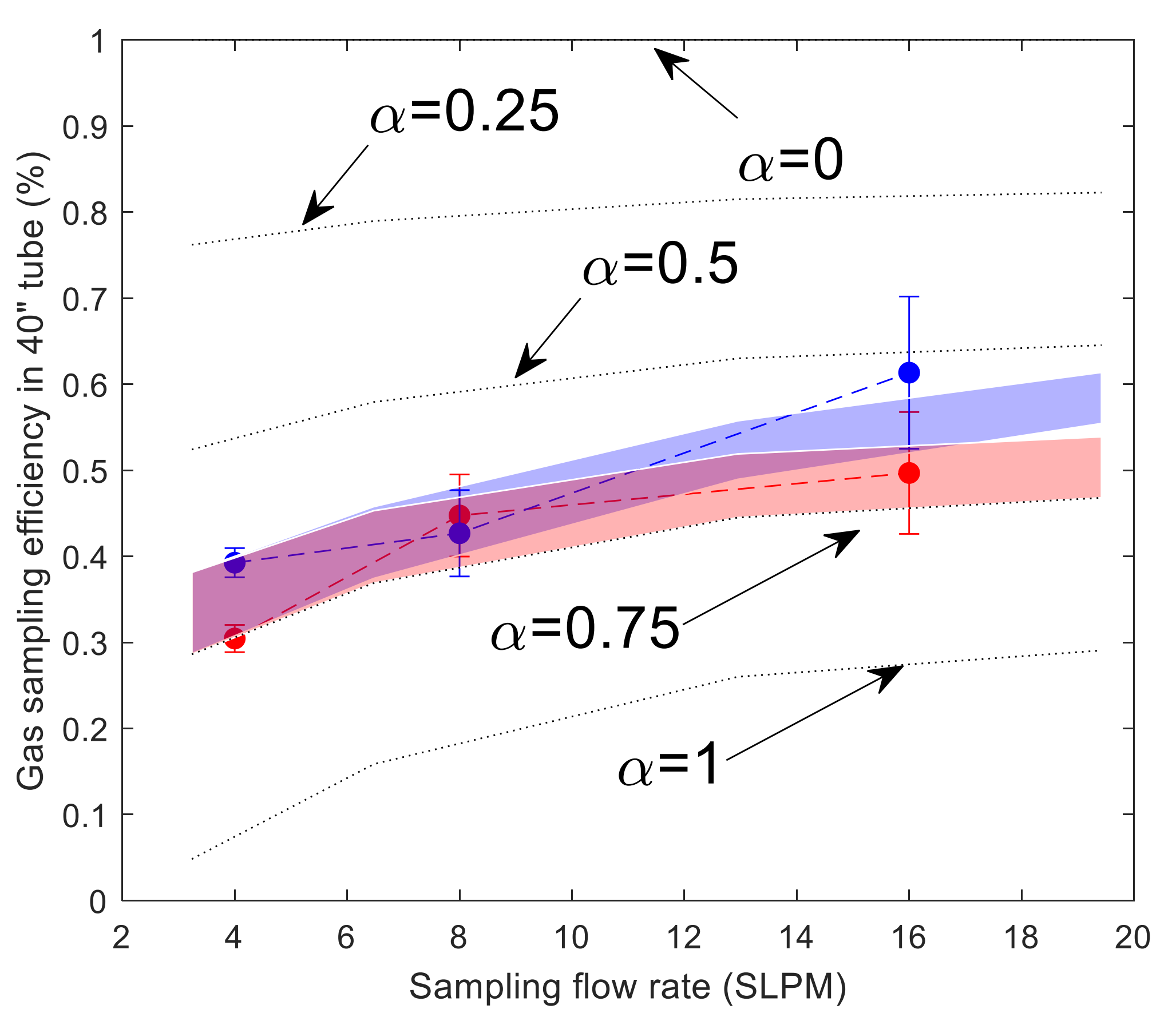
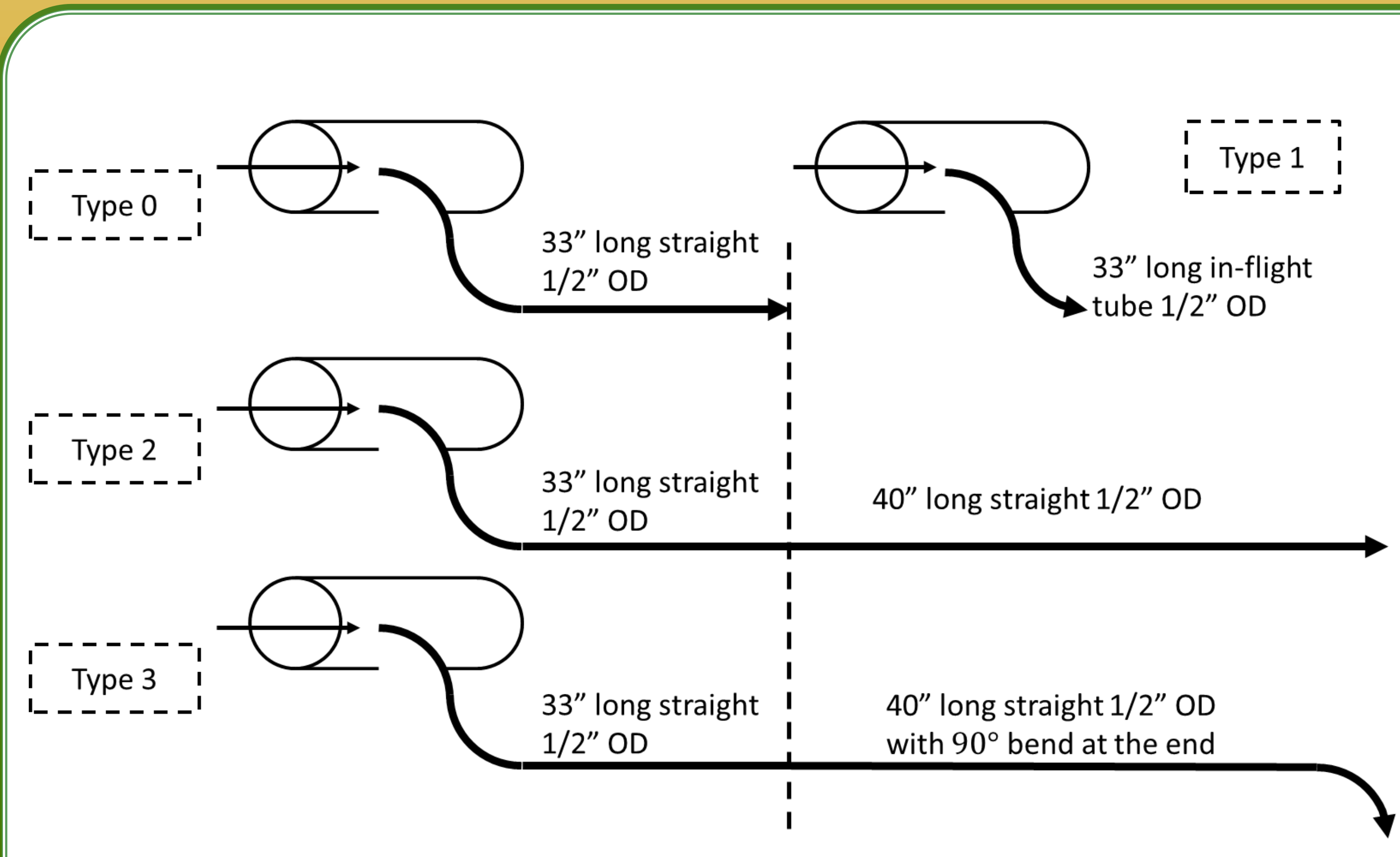
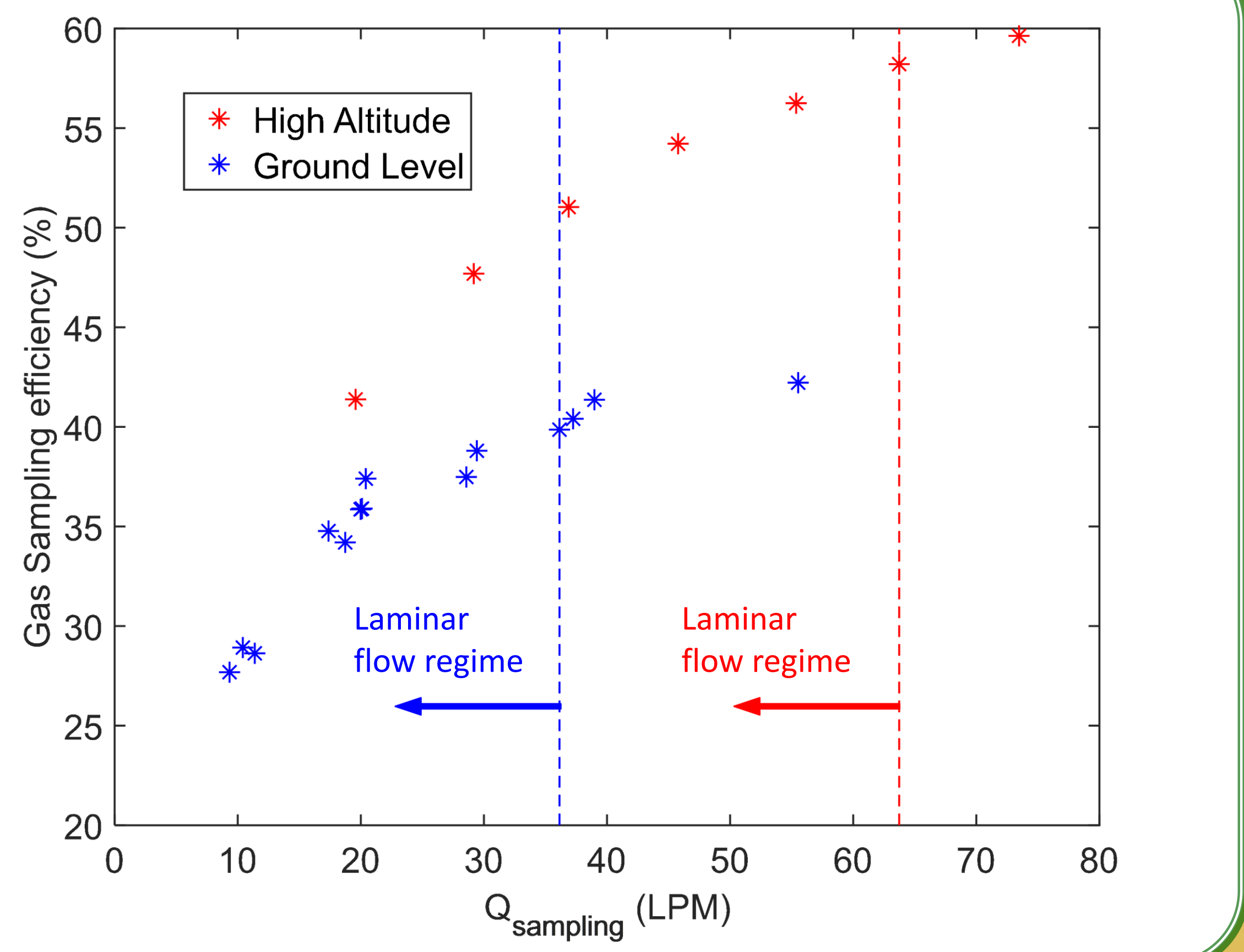
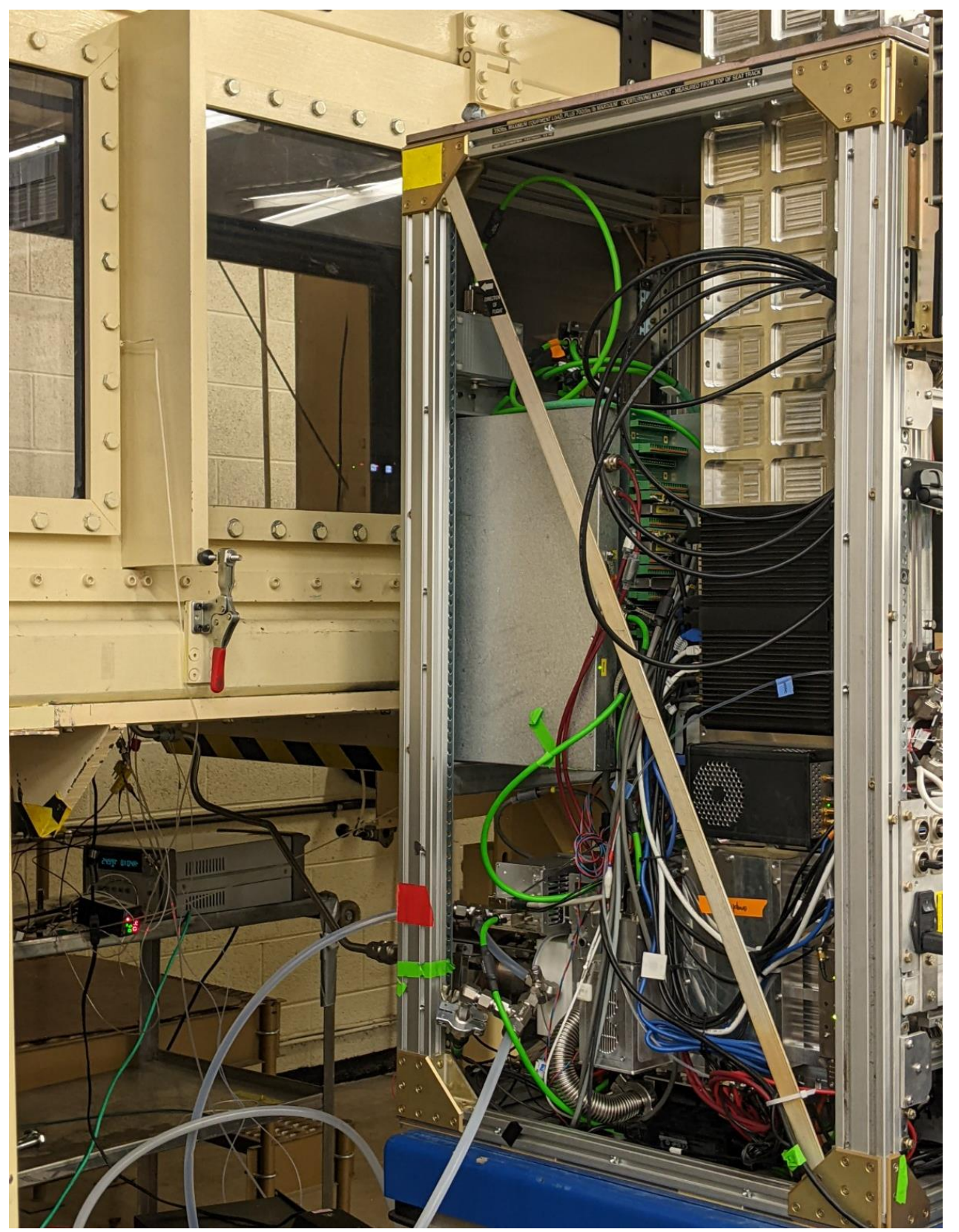
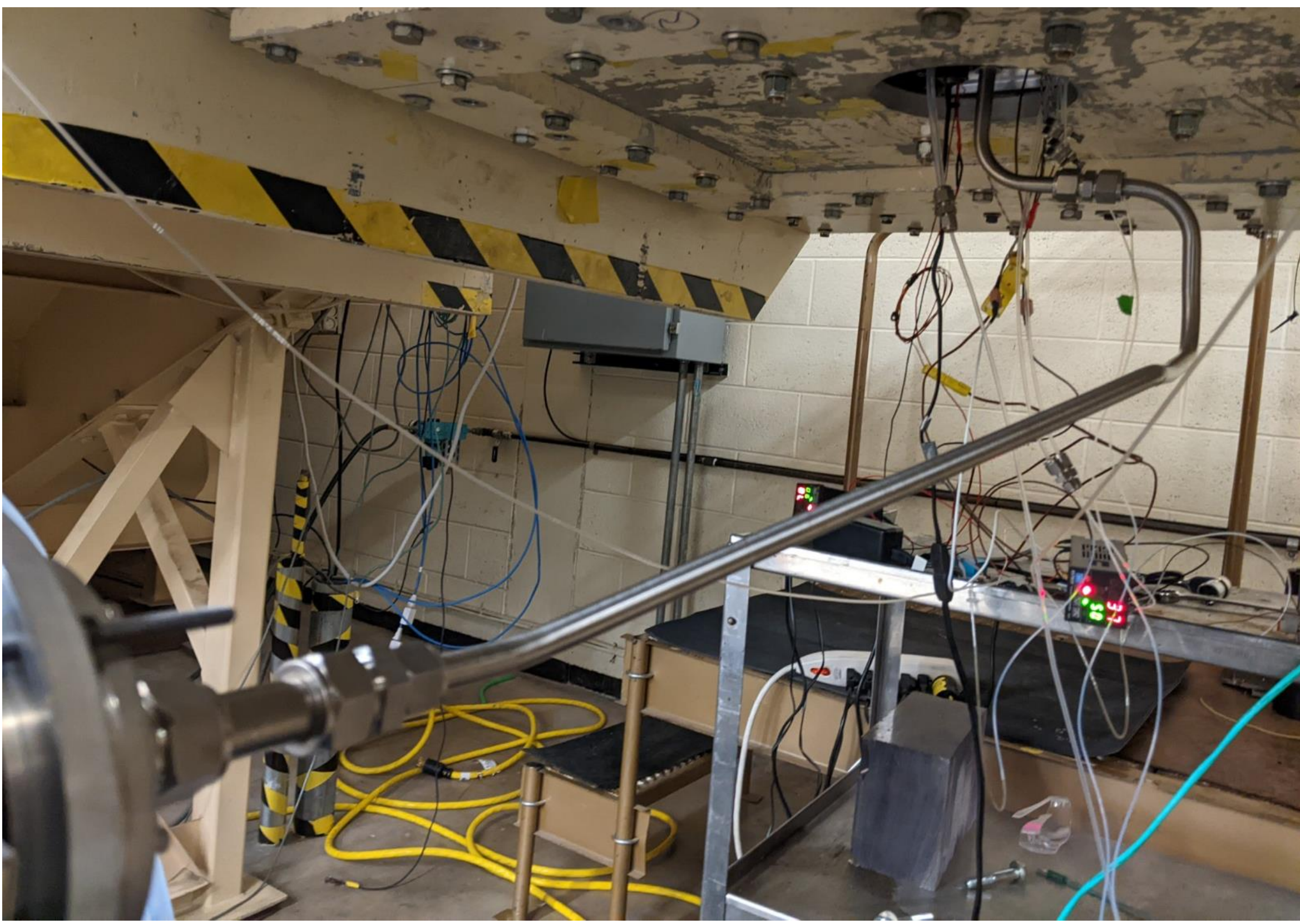
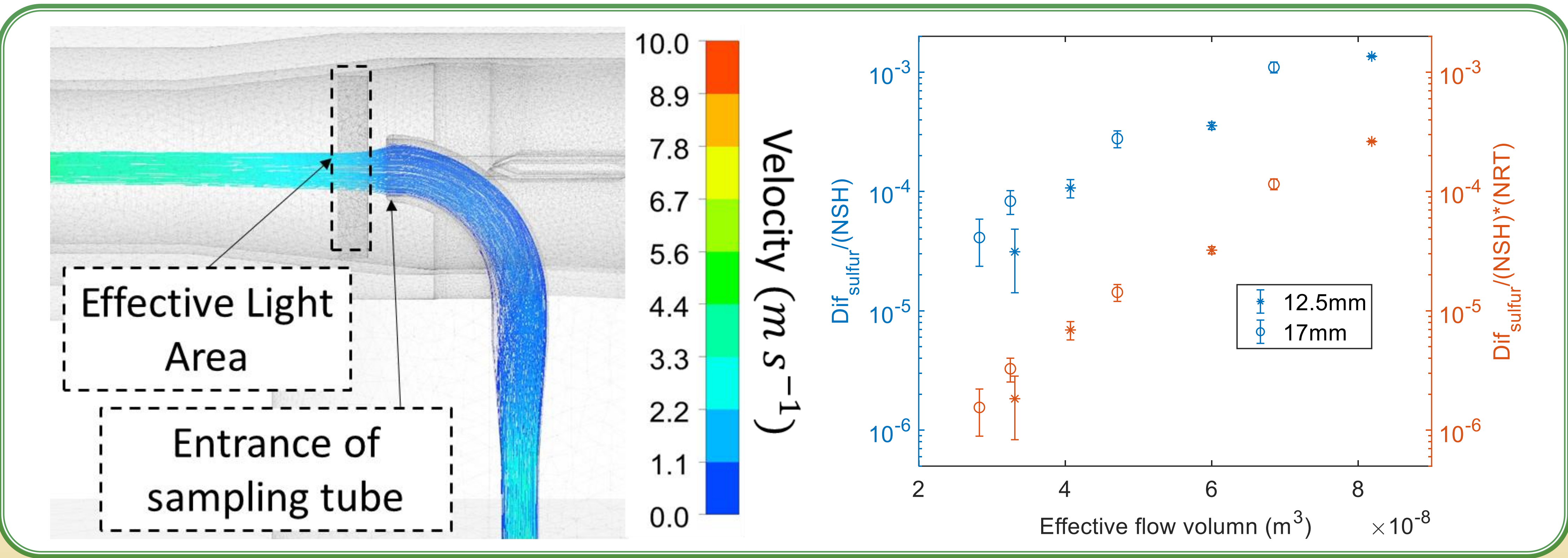
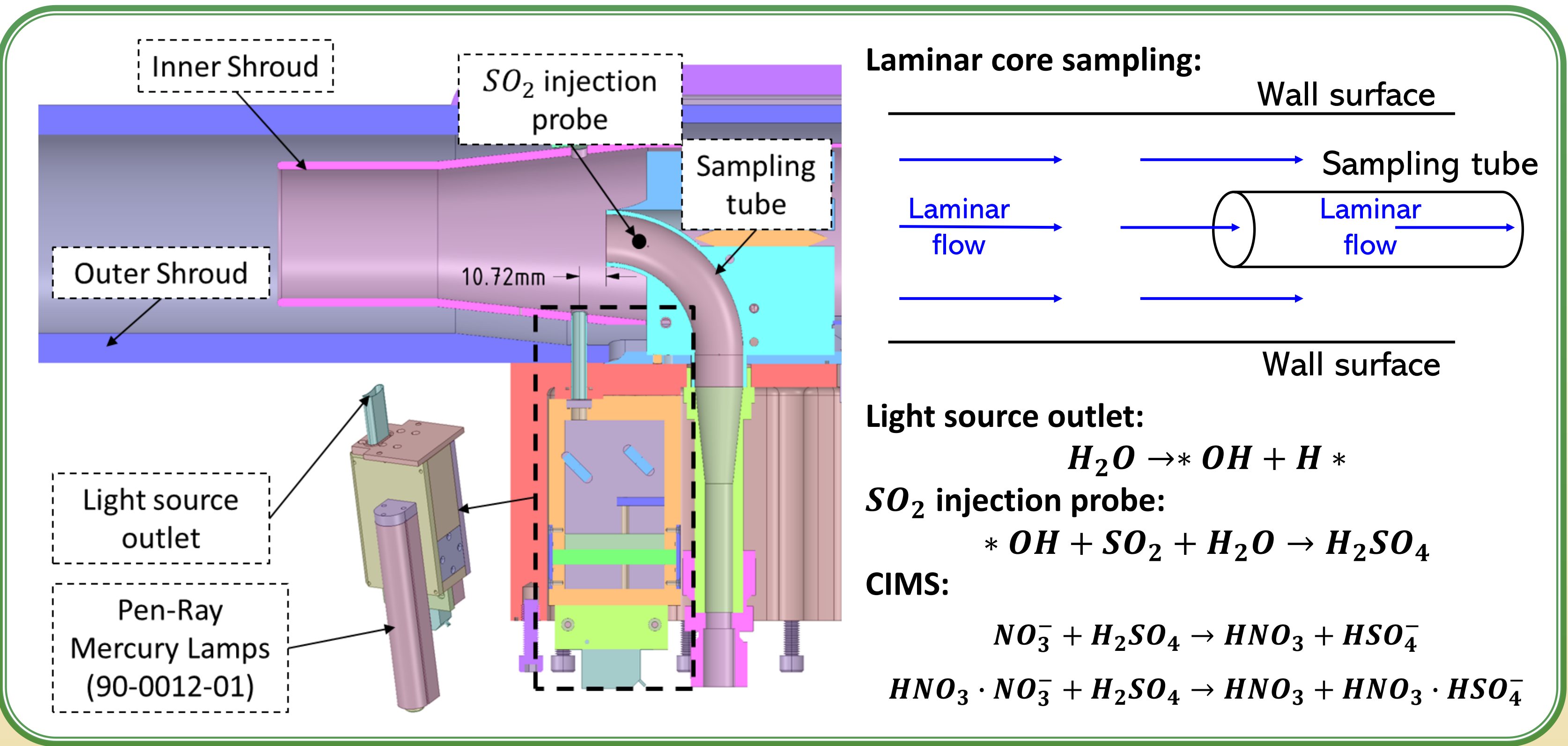


Measuring gas-phase H_2SO_4 transmission efficiency in a wind tunnel: is laminar core sampling the best strategy?

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Conclusions:

The transmission of gas-phase H_2SO_4 is measured as 40% over 40" of a 10.7mm ID sampling line. The CFD model reproduces the observations using the interval [0.65, 0.75] as accommodation coefficient, in good agreement with the literature. CFD simulations reveal clear benefits of shorter residence time over maintaining laminar flow. Our results challenge the widely accepted but weakly supported assumption that laminar core sampling is the method of choice when sampling condensable vapor. The results suggest that the gas transmission efficiency is increased if the residence time is reduced even past the laminar flow regime.

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