

5G09: LARGE EDDY SIMULATION OF EVAPORATING SPRAY IN A COAXIAL COMBUSTOR.

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You have validated your model by comparing with experimental results on an evaporating spray reported by Sommerfeld and Qiu [1]. That paper also reports on a series of experiments at different conditions. Did you apply your model also to those other cases? This would be of interest to validate its ability to capture the trends with differences in droplet loading.

Reference:

[1] M. Sommerfeld, H.H. Qiu, *Int. J. of Heat and Fluid Flow* 19 (1998) 10–22.

Reply by Sourabh Apte

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We have compared to one of the conditions reported by Sommerfeld and Qiu in 1998. We have also performed validation studies on cases presented in a non-evaporating, particle-laden flow [1,2] to show good predictive capability for particle dispersion, particle size distributions, and size-velocity correlations. We agree with comment that further studies on evaporating droplets at different conditions would be of great interest to evaluate the predictive capability and also understand the physics of droplet evaporation and turbulent mixing vapor.

[1] M. Sommerfeld, H.H. Qiu, *Int. J. Heat and Fluid Flow* 12 (1991) 20–28.

[2] M. Sommerfeld, H.H. Qiu, *Int. J. Heat and Fluid Flow* 19 (1993) 1093–1127.