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Experimental investigation on turbulence modification in a dilute gas-particle axisymmetric opposed jets flow

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13 **ABSTRACT**

14 Turbulence modifications in an axisymmetric opposed jets flow are experimentally
15 investigated by means of a simultaneous two-phase PIV measurement technique. The
16 measurements are conducted at a Reynolds number of 14500. Glass beads with an
17 averaged diameter of 100 μm (corresponding to a Stokes number of 59.5) are used as
18 dispersed phase. Relatively low mass loadings ratios (0.04) and large nozzle
19 separation (12 times nozzle diameter) are tested. It is found that the presence of the
20 particles can distinctly modify the gas-phase characteristics, including both
21 macroscopic turbulence statistics and mesoscopic turbulence structures. In the present

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