Interaction of a particle flow formed as a result of shock wave ejection with a counter shock wave propagating in gas

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The work presents experimental data on the interaction of a particle flow with a reflected shock wave formed in helium initially at a pressure of P=2 atm. The particle flow motion was recorded using laser Doppler interferometry [1]. A model [2] was used for the computational description of particle flow in helium. It was demonstrated that the principles underlying the developed model of particle flow evolution in gaseous medium allow for the correct simulation of all processes occurring with particles (deceleration and fragmentation). A significant change in the size distribution of particles after their interaction with the oncoming shock wave was noted.

[1] Ogorodnikov V A, Mikhailov A L, Sasik V S and et al 2016 *JETP* **150**(2)

[2] Gamov A L, Georgievskaya A B and Karsanova T V 2026 *Combustion, Explosion, and Shock Waves* **62**(1)