

Experimental studies for flow velocities of oscillations gas when transiting through resonance in the area of an open end of pipe

Gubaidullin D., Kashapov N., Zaripov R., Tkachenko L., Shaydullin L.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. Mean velocities of gas in the area on an open end of pipe while gas oscillated in a non-linear way near its first eigenfrequency were researched experimentally. A non-monotonic character of the change of the mean velocity in the radial direction was identified.

<http://dx.doi.org/10.1088/1742-6596/789/1/012017>

References

- [1] Nakoryakov V E, Burdukov A P, Boldyrev A M and Terleev P N 1970 Heat and mass transfer in an acoustic field (Novosibirsk: Nauka. Sibir. Otd-e) 253
- [2] Ilgamov M A, Zaripov R G, Galiullin R G and Repin V B 1996 Appl. Mechanics Reviews 49 137
- [3] Zaripov R G, Galiullin R G and Galiullina E R 2001 On the 10th anniversary of IME KazSC RAS 19-35 (Kazan: IME KazSC RAS) Actual problems of continuum mechanics
- [4] Galiullin R G and Tkachenko L A 2007 Nonlinear Oscillations of a Gas in the Tubes (Kazan: Izd. Kazan. Gos. Univ.) 116
- [5] Vasil'ev L S, Zaripov R G, Magsumova A T and Sal'yanov O R 1991 Inzhenerno-Fiz. Zh. 61 714
- [6] Zaripov R G, Davydov R I and Sonin N V 2001 Russ. Aeronaut. 8 1-3
- [7] Gubaidullin D A, Zaripov R G, Tkachenko L A and Shaidullin L R 2015 J. of Engin. Physics and Thermophysics 88 843-847
- [8] Zaripov R G, Kashapov N F, Tkachenko L A and Shaydullin L R 2016 J. Phys.: Conf. Series 669 012053