CALCULATION OF VELOCITY FIELD IN CYLINDRICAL DEVICE WITH A COUNTER-SWIRLING FLOWS BASED ON EXPERIMENTS

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The methodology of calculating velocity field based on the aerodynamic characteristics of the motion of gas in centrifugal field, using a five-channel probe is elaborated. There are many studies on the development of various methods for the velocity determination, and a huge amount of construction equipment is created. The velocity direction was determined by the alternately rotating device in three mutually perpendicular planes around the center of the ball. Rotation produced as long as until the paired lateral openings (4-5) does not set the same pressure. Calculation of the rate is based on the formula grounding on a critical analysis of the known methods for determining the velocity fields. This method of measurement is the most accurate. Furthermore, it is the simplest processing of experimental data. Plot the absolute axial, tangential and radial velocities, based on the order in which the unit with counter swirling flow they are measured.

Keywords: five-channel probe, velocity field, aerodynamic characteristics.