

Pulsed supersonic helium beams for plasma edge diagnosis

Abstract: An experimental setup for the production of pulsed supersonic He beams to be used for plasma edge diagnosis in fusion devices is described. A compromise between compact design, low cost, and good quality of the probe beams has been met. The main characteristics of the generated beams, such as pulse shape, absolute flux intensity, and velocity distribution, differ in general from those expected for ideal beam performance and have been determined and optimized experimentally. A first test of this He beam source at the TJ-I UP Torsatron in Madrid is also reported. (C) 1997 American Institute of Physics.