RECENT ADVANCES IN PULSED SUPERSONIC SOURCES

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We have reexamined the classical role played in pulsed supersonic expansions by nozzles, skimmers and discharge excitation sources. The results are implemented in enhanced performance sources that improve the beam intensity and the cooling achieved by more than an order of magnitude. Concrete results of simulations and testing will be presented. The enhanced sources are already used in several labs, widening the horizon of possible experimental future uses.