Abstract Submitted
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Supersonic expansion of molecular oxygen[1] JESUS PEREZ-RIOS, Dpto. de Fisica Atomica, Molecular y de agregados. Instituto de Fisica Fundamental, CSIC, Serrano 123, 28006 Madird, Spain, MASSIMILIANO BARTOLOMEI, Dpto. de Fisica Atomica, Molecular y de agregados. Instituto de Fisica Fundamental, CSIC, Serrano 123, 28006 Madird, Spain, JOSE CAMPOS-MARTINEZ, MARTA ISABEL HERNANDEZ, Dpto. de Fisica Atomica, Molecular y de agregados. Instituto de Fisica Fundamental, CSIC, Serrano 123, 28006 Madird, Spain, GUZMAN TEJEDA, JOSE MARIA FERNANDEZ, Lab. de Fluidodinamica Molecular. Instituto de Estructura de la Materia, CSIC, Serrano 121, 28006 Madrid, Spain, SALVADOR MONTERO, Lab. de Fluidodinamica Molecular. Instituto de Estructura de la Materia, CSIC, Serrano 121, 28006 Madrid, DPTO. DE FISICA ATOMICA, MOLECULAR Y DE AGREGADOS TEAM, LAB. DE FLUIDODINAMICA MOLECULAR TEAM — Supersonic jets are gas dynamic quasi-universal structures showing a wealth of features combining laminar and turbulent flow, relaxation effects, shock waves, vortices, slip effects, and condensation, spanning a wide range of densities, temperatures, chemical species, and Kn numbers. In the supersonic expansion exists a zone between the nozzle and the shock wave, called the zone of silence. We apply the Raman spectroscopy in this zone to obtain the experimental number density and the population of the rotational levels. This method has a high special resolution (<5μm) and high-sensitivity spectroscopy (<photon/sec).

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