

Abstract Submitted
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Ion velocity measurements in expanding argon plasmas¹ DELONIA WIGGINS, EPHREM MEZONLIN, JOSEPH JOHNSON, Florida A&M University — Using a 7 Watt continuous wave argon ion laser at 488 nm to probe plasmas created by an Nd:YAG pulsed laser, we can make the ions in the argon plasma fluoresce at 422 nm. With phase coherence velocimetry, we make direct measurements of ion velocities in the expanding plasma along with direct measurements of the local turbulent strength from the strength of the velocity fluctuations. Since high irradiance laser fields could couple with local turbulent parameters, we determine the influence of a 0-1 Kilowatt cw laser on the turbulent velocity signatures. We discuss these results in the context of new turbulent astrophysics and fusion science.

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