

Abstract Submitted
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Application of PIV techniques to phase transition and wave experiments in complex (dusty) plasmas¹ L. COUEDEL, MPE, E. THOMAS, Auburn University, J. WILLIAMS, Wittenberg University, V. NOSENKO, S. ZHDANOV, A. IVLEV, H. THOMAS, G. MORFILL, MPE — Over the last decade, particle image velocimetry (PIV) techniques have been applied in the study of complex (dusty) plasmas to study a wide range of wave and transport activity. While much of this work has involved the use of hardware configured specifically for PIV, the increased availability of higher speed imaging (*i.e.* >100 fps) over the last few years has allowed this diagnostic technique to be applied directly to video data without the need for specialized hardware. This poster will present the results of recent studies applying the PIV technique to phase transition measurements during the melting of a two-dimensional plasma crystal, as well as limitations that arise from the use of non-specialized hardware. In particular, we will show that this use of the PIV technique can identify compressional and transverse waves excited by the melting front.

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