

## Contribution submission to the conference Jena 2013

### **Dust particle wakes in flowing plasmas: one-to-one comparison of linear-response theory with particle-in-cell simulations**

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Extending the controversial discussion on the existence of subsonic plasma wakes in a stationary flowing plasma [1,2], we present results of a high quality one-to-one comparison of the wake potentials computed by (i) linearized-response kinetic theory, and (ii) first principle particle-in-cell simulations [3]. The comparison comprises a broad range of Mach numbers, different electron-to-ion temperature ratios, and applies to collisionless and collisional plasmas as well.

[1] I. H. Hutchinson, Phys. Rev. E **85**, 066409 (2012)

[2] O. Arp, J. Goree, and A. Piel, Phys. Rev. E **85** 046409 (2012)

[3] D. Block, J. Carstensen, P. Ludwig et al., Contrib. Plasma Phys. **85**, 804 (2012)

**Part:** P  
**Type:** Poster  
**Topic:** Staubige Plasmen; Dusty Plasmas  
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