Particles in the wake of other particles\textsuperscript{1} DIETMAR BLOCK, Christian-Albrechts-University Kiel, Germany, WOJCIECH JACEK MILOCH, University of Oslo, Norway — The charging of dust grains in the wake of another grains in sonic and supersonic collisionless plasma flows is studied by numerical simulations. The simulations are carried out with DiP3D, a three dimensional particle-in-cell code with both electrons and ions represented as numerical particles. We consider two grains aligned with the flow, as well as dust chains and multiple grain arrangements. It is found that the dust charge depends significantly on the flow speed, distance between the grains, and the grain arrangement. Special attention is paid to typical experimental situations like a particle below a layer of particles and small 3D clusters.

\textsuperscript{1}Funded by DFG in the framework of the SFB TR24 project A3.