

- This paper reports progress made in understanding exhaust physics in MAST in the last two year period.
- The flattening and the broadening of the midplane SOL profiles were measured and characterised in a spherical tokamak and constraints on the interpretation of the results were provided by newly developed theoretical frameworks.
- Filament statistics and dynamics was proven to affect the mean profiles and the features of the turbulence, upstream and at the target at least in the far SOL.
- Trends with machine parameters suggest a different mechanism for heat and particle exhaust.
- Advanced configurations in MAST-U were simulated and proved to be well performing against several figures of merit.

