Dr Maksymilian Roman, Dept of Physics.

**Abstract**

The research in our group is focused on reaction dynamics of collisions of charged ions with neutral molecules. We use a molecular beam, which admits a pulse of gas that we want to react into our vacuum chamber (vacuum is crucial to isolate the reactant molecules from any ambient ones, like those in air). The molecules in the beam collide with stationary ions, which are trapped in space using a combination of electric fields and laser cooling. This occurs in the centre of the depicted chamber. The layout of the experiment has a very pleasing symmetry about it, as illustrated in the image.