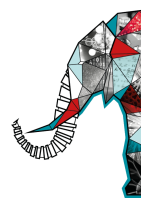


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Non-destructive detection for molecules without mass limitation

Molecule detection can be achieved either by non-destructive observation for light molecules or via fragmentation for heavier molecules. We propose a new setup able to detect giant molecules without mass limitation via a non-destructive method.

First of all the giant molecules are generated with an electrospray source, then guided with electrostatic fields through the sensitive element, a $^{40}\text{Ca}^+$ ion-cloud. This cloud is laser-cooled and trapped in a linear Paul trap thanks to radiofrequency electromagnetic fields.

As the ions are laser excited, this configuration allows for a giant molecule to perturb the ion-cloud and modify its fluorescence signal. The quality of the detection depends on the trapping potential and cloud size. One also needs to control the energy of the giant molecule and its point of impact on the cloud. We are presenting our last results.

Choix de session parallèle

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