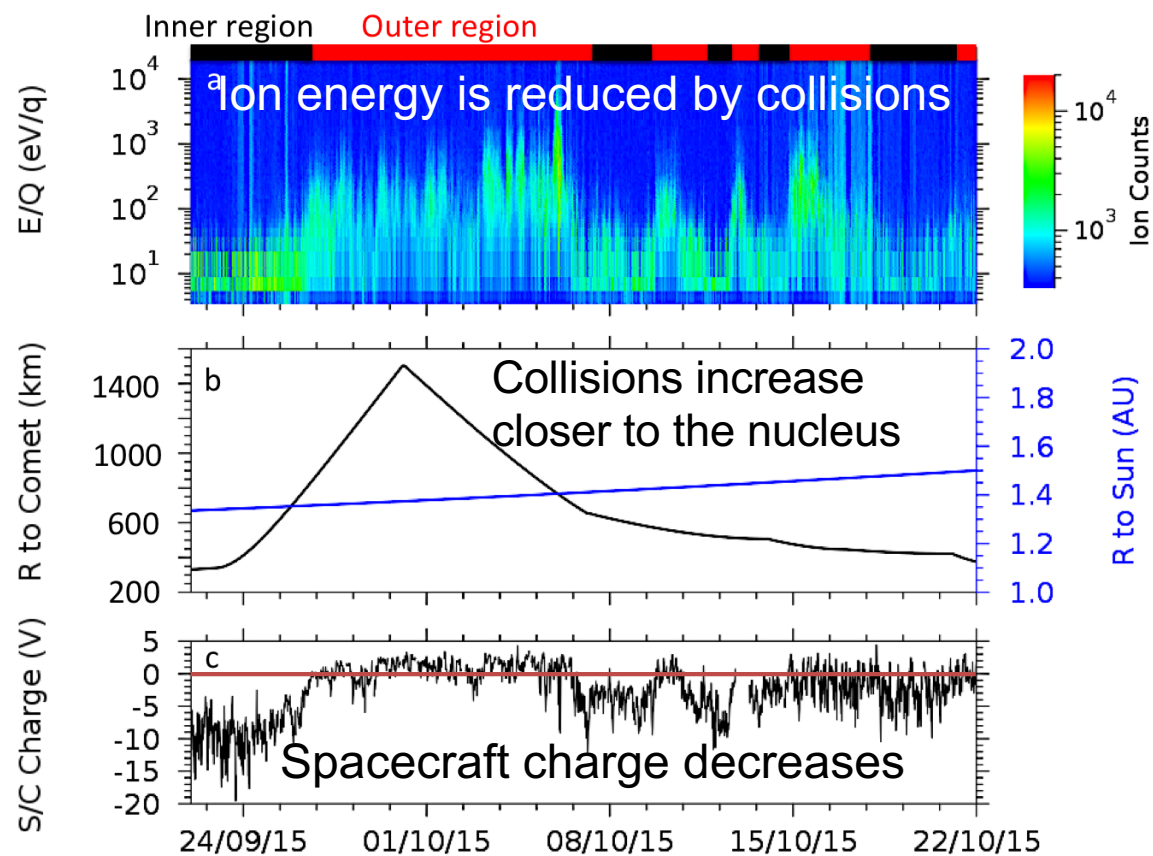
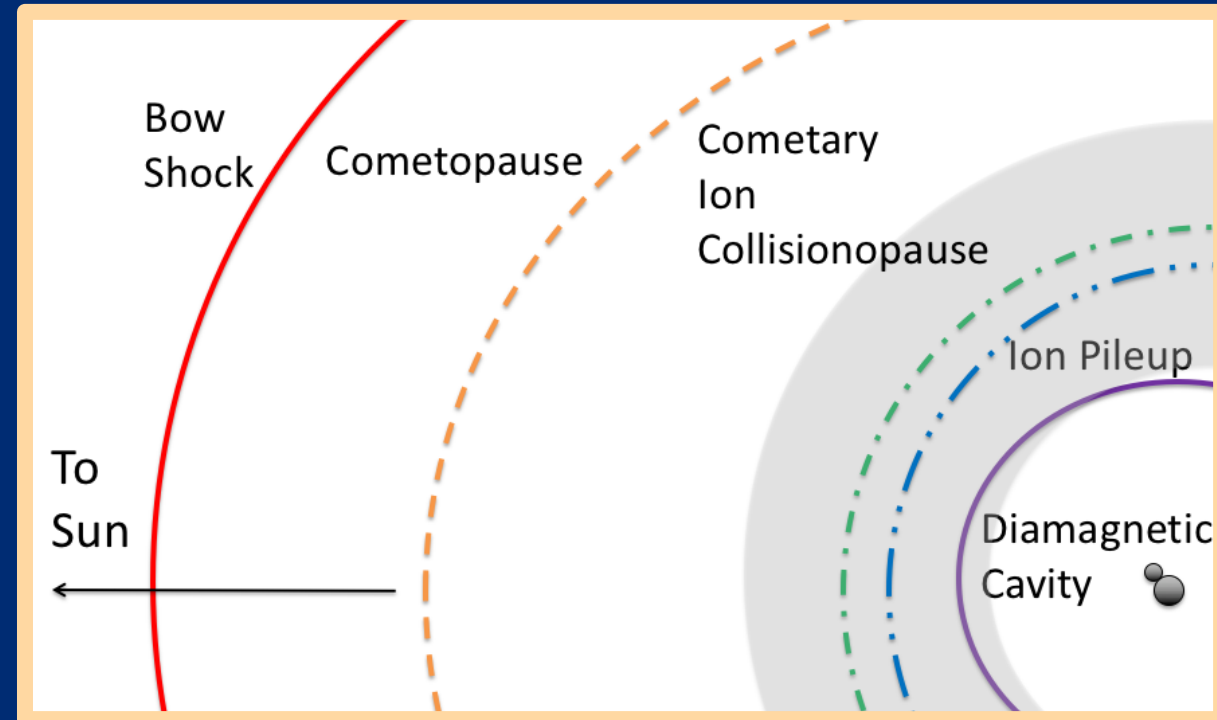


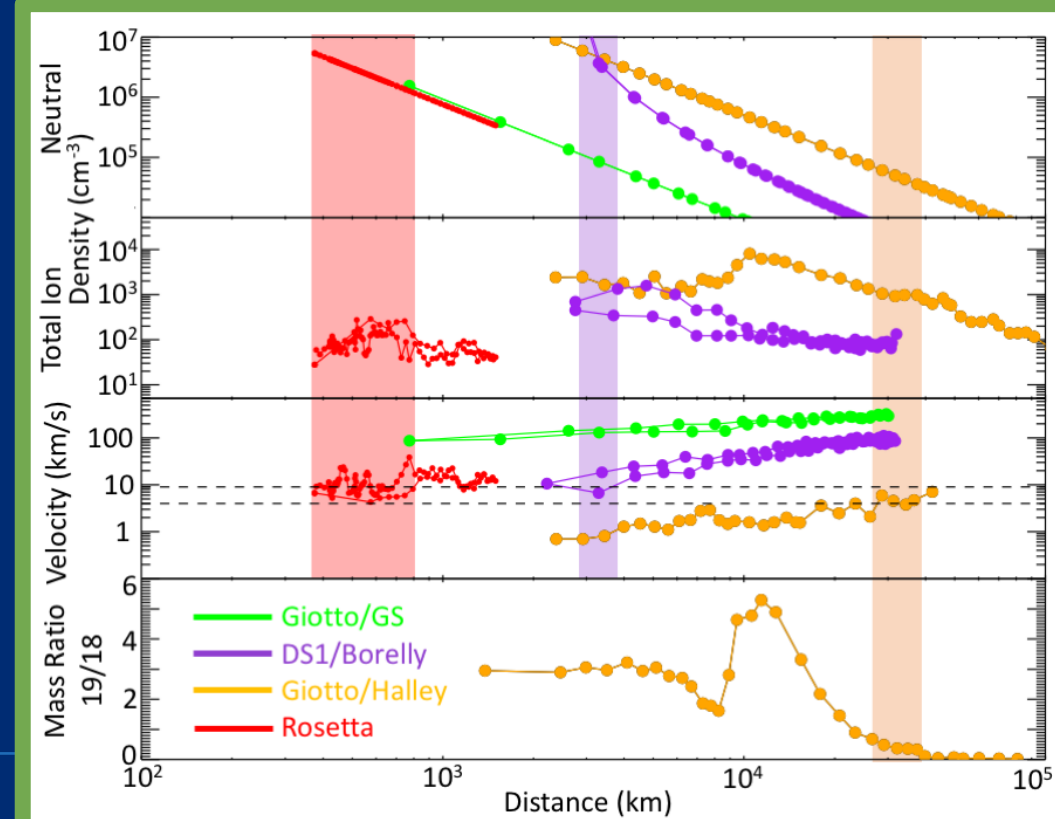
The influence of collisions on ion dynamics in the inner comae of four comets

During an excursion to 1500 km from 67P/Churyumov-Gerasimenko, *Rosetta* discovered a boundary formed by collisions between ions and neutrals close to the nucleus

This result added to the big picture understanding of how comets interact with the Sun



Re-evaluation of data from *Giotto* flybys of 1P/Halley and 26P/Grigg-Skjellerup, and the *Deep Space 1* flyby of 19P/Borrelly show that this boundary (shaded in figure at right) was also observed at 1P/Halley and 19P/Borrelly



Collisions between ions and neutrals in the inner coma of a comet reduce the ion velocity and result in chemistry that changes the composition of the ions.