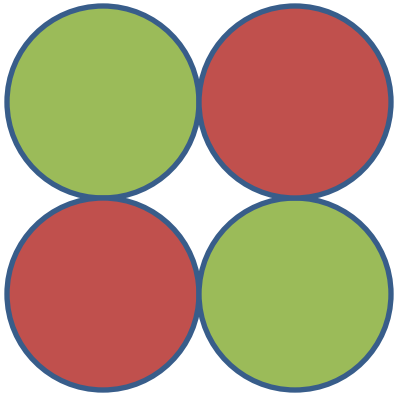
QUADRUPOLE



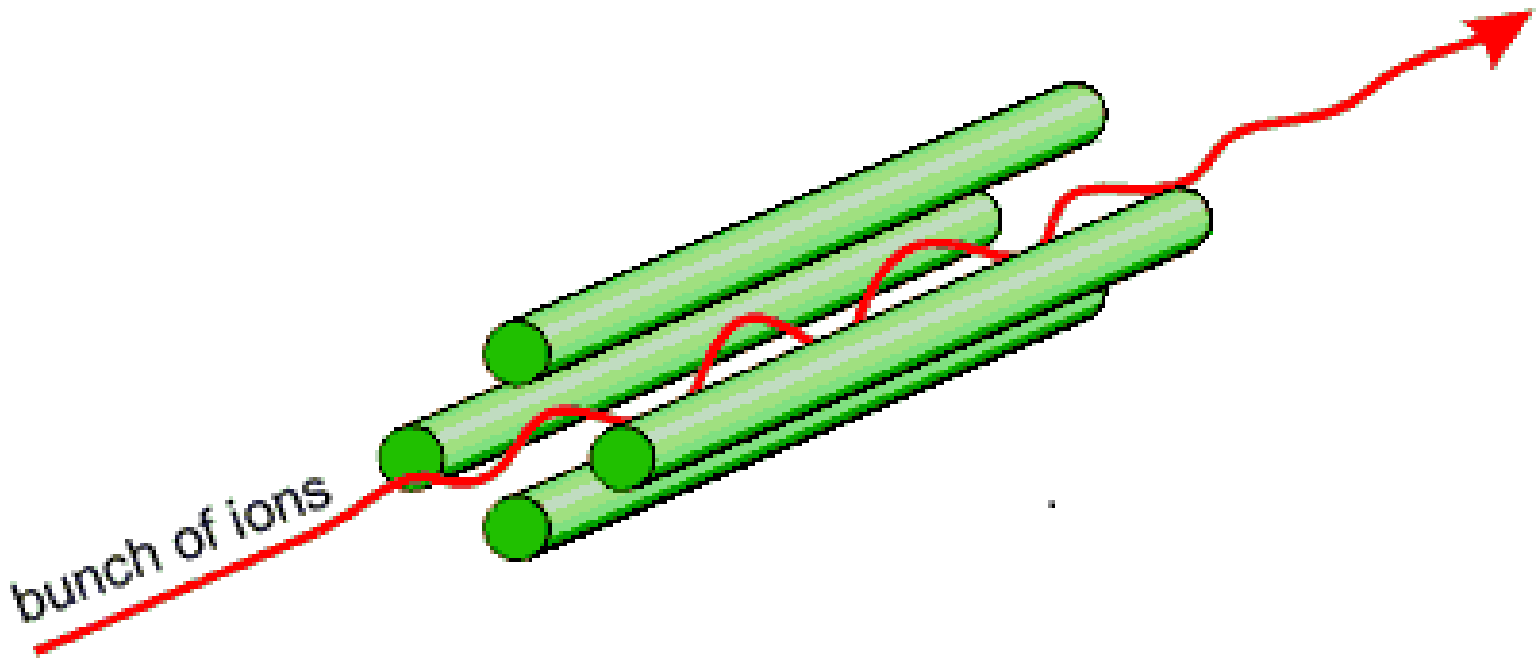
Amitava Srimany
20-08-2011

Electric quadrupole

Magnetic quadrupole

Gravitational quadrupole

TRAJECTORY OF IONS THROUGH QUADRUPOLE



IMPORTANT FACTORS AND PRINCIPLE OF OPERATION

4 rods should be perfectly parallel

Rods should be hyperbolic and arranged in a circular manner

Opposite DC voltages are applied to opposite pair of rods

RF voltage is superimposed on the rods

When RF/DC = 6 ions pass through the quadrupole, others hit one of the rods

APPLICATIONS

Mass analyzer (GC-MS)

Triple quadrupole mass spectrometer (3200 QTRAP)

Ion trap (LTQ)

THANK YOU