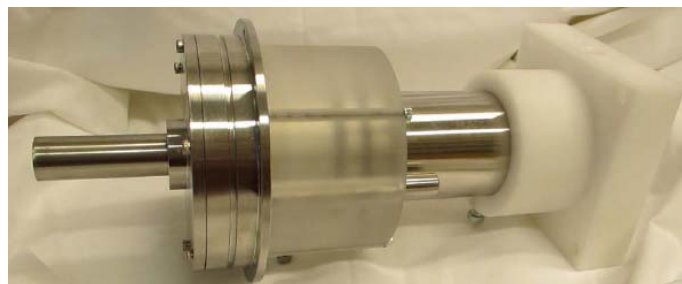




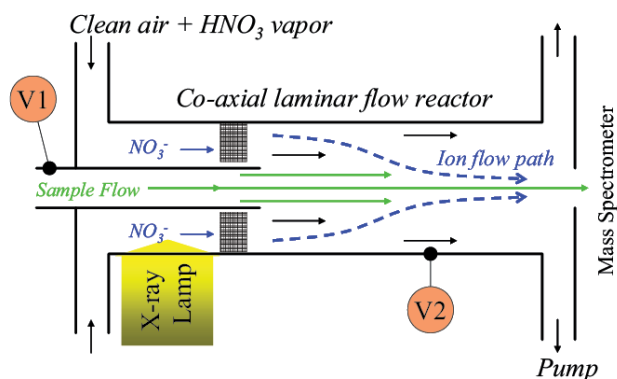
## Nitrate Ion Chemical Ionization Source for API-ToF Mass Spectrometer System



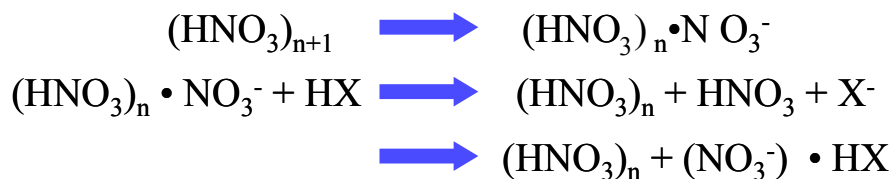
NO3 Source



EyeOn Control System



### Ionization Scheme



HX is H<sub>2</sub>SO<sub>4</sub>, oxidized organic acids, other strong acids

### ADVANTAGES

- Soft and selective ionization by charge transfer with highly acidic gases (eg. H<sub>2</sub>SO<sub>4</sub>) and cluster formation with polar low volatility oxidized organic gases.
- Soft x-ray source for ionization, no radioactive elements.
- Electrostatic flow reactor system based on the design of *Eisele and Tanner, 1993*.
- Mass flow controllers for precise control of flow reactor and HNO<sub>3</sub> vapor source.
- EyeOn™ Electronics for control of gas flows and electrostatic voltages, USB computer interface 2U 19" rack mountable.
- EyeOn™ control software.
- All required hardware for mounting to CI-API TOF Mass Spectrometer systems.

*Eisele, F. and Tanner, D. Measurement of the gas phase concentration of H<sub>2</sub>SO<sub>4</sub> and methane sulfonic acid and estimates of H<sub>2</sub>SO<sub>4</sub> production and loss in the atmosphere, J. Geophys. Res., 98(D5), 9001–9010, 1993.*