

# **Global spatial and temporal behavior of meteoric metals in the upper atmosphere**

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High temporal resolution vertical column contents of the most dominant meteoric metal species,  $Mg^+$ ,  $Mg$ ,  $Fe^+$ ,  $Fe$ , and  $Si$  have been measured pole-to pole using the nadir-viewing Global Ozone Measuring Experiment (GOME) UV/VIS spectrometer on the ERS-2 satellite. The global temporal variation of the vertical contents over the course of a year, in particular seasonal changes, showed significant differences between metal species. Furthermore, there are equatorial and high latitude enhancements of the metal ion contents that appear to relate to crossings of the magnetic equator and on some orbits the auroral zone. The data will be presented in geomagnetic coordinates to demonstrate these enhancements. Also, the time period surrounding the Perseid meteor shower was studied to determine potential effects of increased rates of deposition of meteoric metal species in the atmosphere. These results will be compared with previously analyzed data during the period of the Leonids shower. Variations in column contents during Leonids were observed, but their correlation to the shower is ambiguous. The Perseid shower has a greater hourly rate of meteors than most other showers, with a greater potential for altering the atmospheric metal concentrations.