**稳定同位素比质谱仪**

**Isotope Ratio Mass Spectrometer (IRMS)**

**功能用途：**

稳定同位素比质谱仪主要用于海洋水体、藻类和微生物、沉积物里的生物标志物的单体碳、氢和氧同位素，固体样品的C/H/O/N同位素等，碳酸盐的碳氧同位素等分析，用于研究海洋有机地球化学、营养盐的利用、藻类的代谢机制、水体的混合过程、古环境的重建等。可高精度测定同位素13C、15N、18O、17O、34S和H/D以及28Si/29Si、Ar、Kr和Ae丰度比。

**技术指标：**

MAT253 Plus高精度稳定同位素比质谱仪绝对灵敏度优于600分子/离子(molecules /Ion (CO2 =44))；离子源线性0.02‰/nA；分辨率 CNOS: m/Δm=200 (10% valley)，H/D m/Δm=25 (10% valley；H3+因子<10ppm/nA。

The state-of-the-art stable lab is equipped with a Delta V advantage mass spectrometer and a 253 plus mass spectrometer, and peripherals such as gas chromatography (GC), thermal conversion elemental analyzer (TCEA), Gas Bench and Precon etc. They can be used to determine the high-precision stable isotope ratio of liquid, gas and solid materials, such as 13C, 15N and 18O, and D values of particles, 18O, and D values of water, compound-specific 13C and D values of biomarkers, 13C and 18O of carbonates, 13C and 15N in CH4 and N2O gases, etc. The facility is open to those who conduct research in organic/biogeochemistry, biogeochemical process in the deep sea, trophic level of marine ecosystem, paleoclimate and paleoenvironment reconstruction, marine geology and sedimentation, etc.

