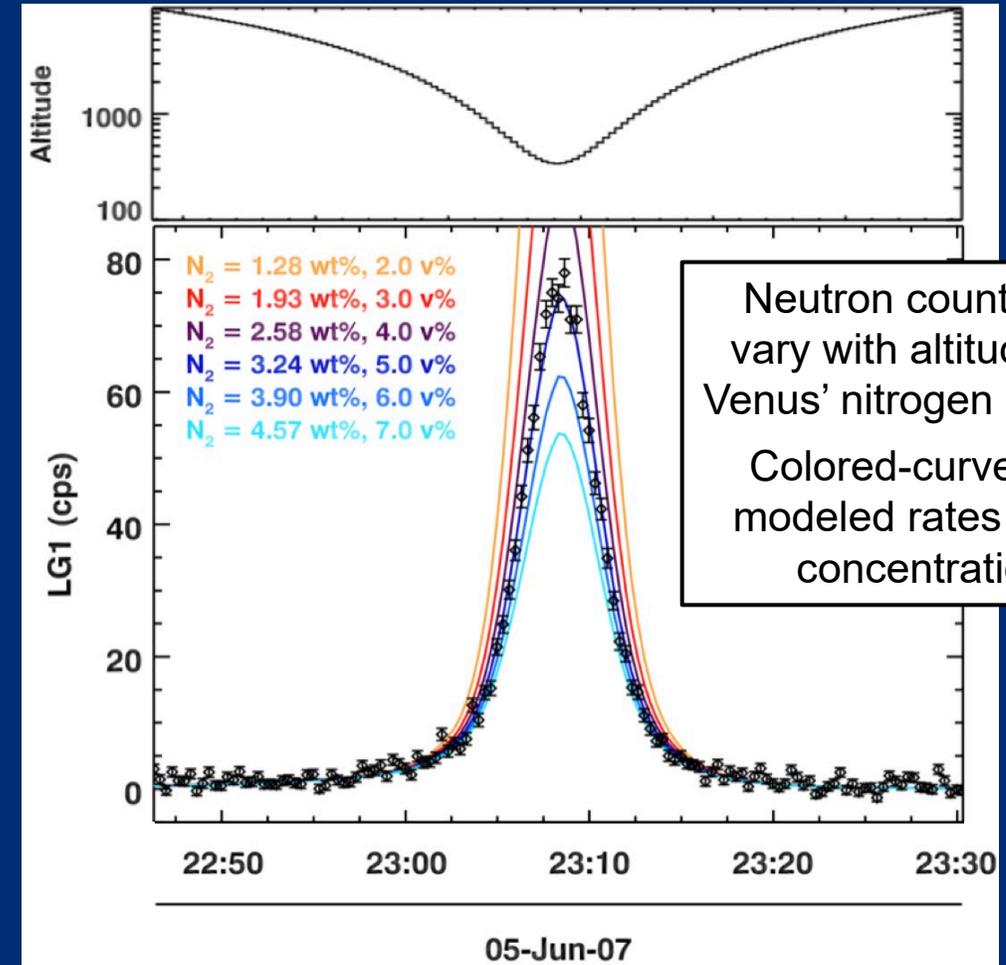


Altitude-dependent nitrogen concentrations in Venus' atmosphere

- On 5 June 2007, the Mercury-bound MESSENGER spacecraft flew by the planet Venus.
- MESSENGER neutron spectrometer measurements during this flyby provided the first measurement of the nitrogen content of Venus' atmosphere at altitudes between 60 and 100 km.
- Our result, 5.0 ± 0.4 % N_2 by volume, is significantly higher than the value of 3.5% N_2 reported for the lower atmosphere (<50 km altitude).
- Our discovery of altitude-dependent variations in the N_2 content of the atmosphere defies early expectations of homogeneous composition below 100 km.



MESSENGER-measured neutron fluxes reveal higher amount of nitrogen gas by volume at altitudes >50 km than at lower altitudes.