

GAS CALIBRATION LINES FOR STXM

gas-calib-ref.doc (31-May-2025 aph)

S 2p_____

SF₆ **4s Ryd** = **177.42** Hudson et al, Phys. Rev. A 47(1993) 361
S 2p_{1/2} → t_{2g} = **184.57**

C1s_____

CO₂ **π*(v=0)** **290.74** Chen et al, Phys Rev A 44 (1991) 1848
 3s(v=0) **292.74**
 3p(v=0) **294.96**

N1s_____

N₂ **π*(v=0)** **400.87** Chen et al, Phys Rev A 40 (1989) 6737
 3s(v=0) **406.15**
 3p(v=0) **407.115**

O1s_____

O₂ **π*(v=0)** **530.8** Chen et al, Phys Rev A 40 (1989) 6737
 Rydberg **541.85** Chen et al, Phys Rev A 40 (1989) 6737

CO₂ **π*(v=0)** 535.4 I. Ishii & A.P.Hitchcock, J. Elec. Spect. 42 (1987) 11
 π*(v=0) **535.334** **J. Stierhof et al , Eur. Phys. J. D76 (2022) 38**
 3s(Ryd) **538.9** (read from ISEELS)

F 1s_____

SF₆ F1s -> a_{1g} 688.27(15) RNS Sodhi & CE Brion, J. El. Spec. 34 (1984) 363
 F1s -> a_{1g} **688.448** **J. Stierhof et al , Eur. Phys. J. D76 (2022) 38**

Ne 1s_____

Ne 1s -> 3p 867.05 eV Hitchcock & C.E. Brion, J. Phys. B 13 (1980) 3269
 1s→3p **867.278 eV** **J. Stierhof et al , Eur. Phys. J. D76 (2022) 38**
 1s -> 4p 868.8 eV (read from ISEELS)

S 1s_____

SF₆ t_{1u} **2486.0(2) eV** R.E. LaVilla, J. Chem. Phys. 57 (1972) 899.