

# fTDS Analysis: Background

## fTDS Specification:

1. Designed for Impurity Detection on 300 mm Wafer
2. Sample Heating Modes; beam heater & lamp heaters
3. Self-calibration Function
  - System Calibration Factor, R, determined every six months
  - factor R experimentally set between method 1 & method 2
  - currently  $R = 9.18$
  - method 1; pumping speed not enough, **calibration only**
  - method 2; default DAQ setting
4. Loadlock System for Sample Loading
5. Fully Automated with Mapping Function
6. QMS
  - 10 masses selected in DAQ
  - M/z outgassing rate: total outgassing rate  $\times$  ratio of M/z currents versus currents sum,  $\Sigma$  (1 amu ~ 200 amu)

Fig. 0

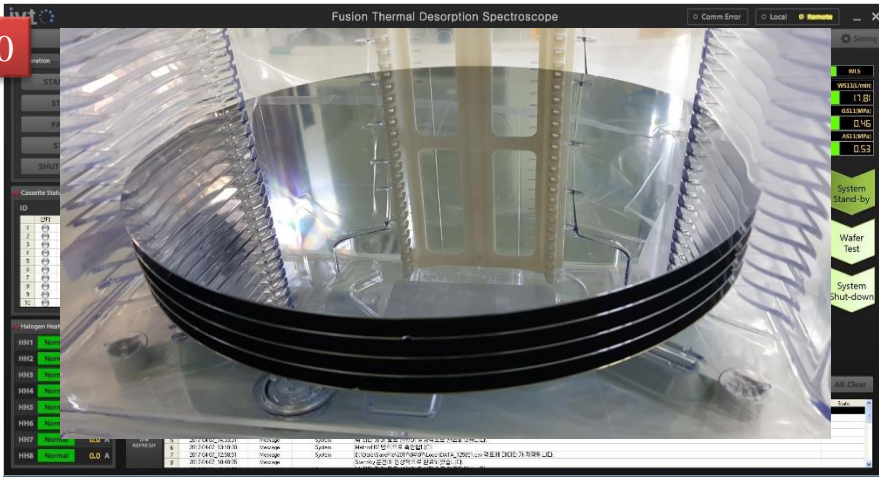


Fig. 1

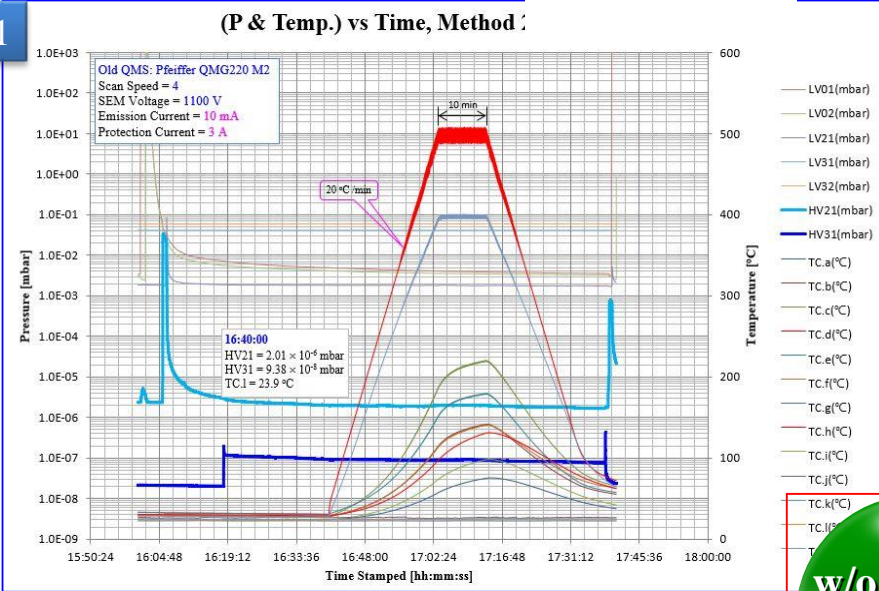
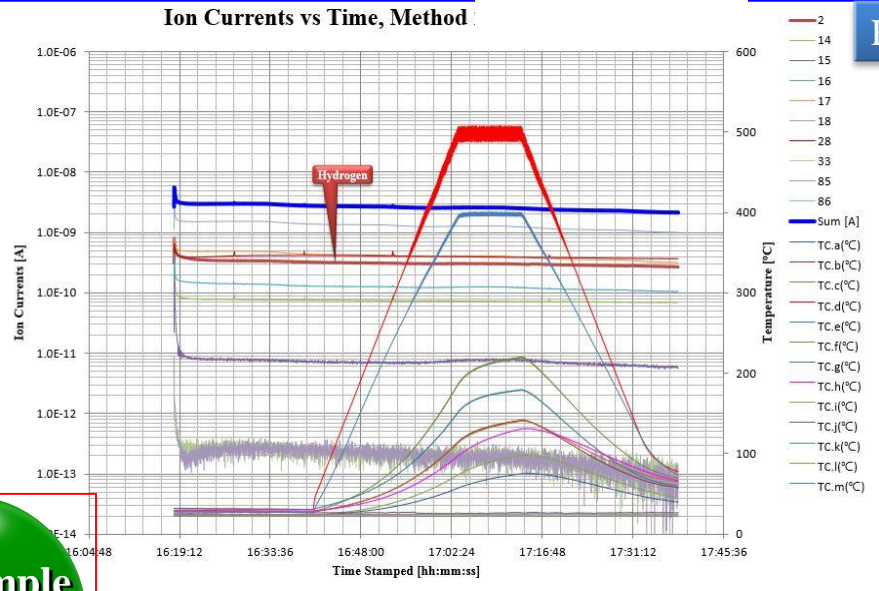


Fig. 2



w/o Sample Method

Fig. 3

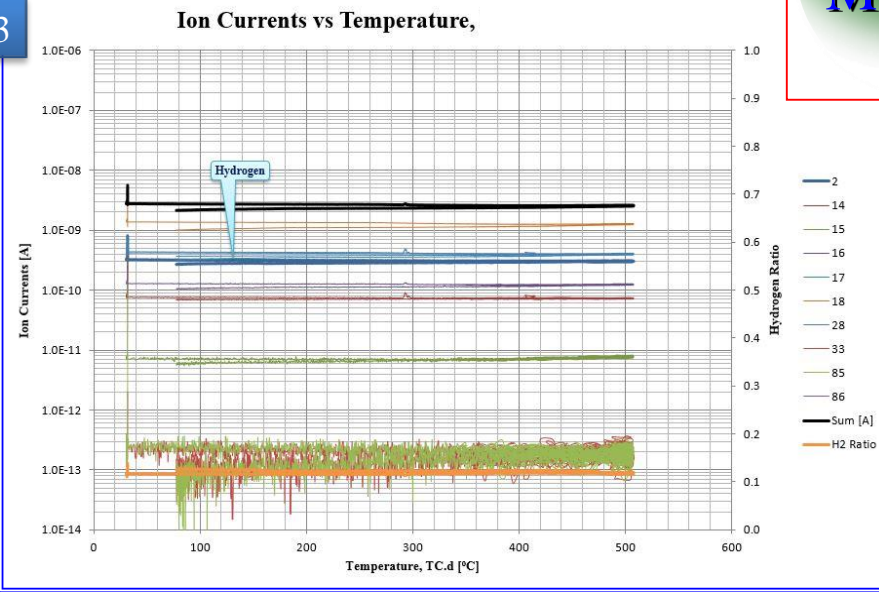


Fig. 4

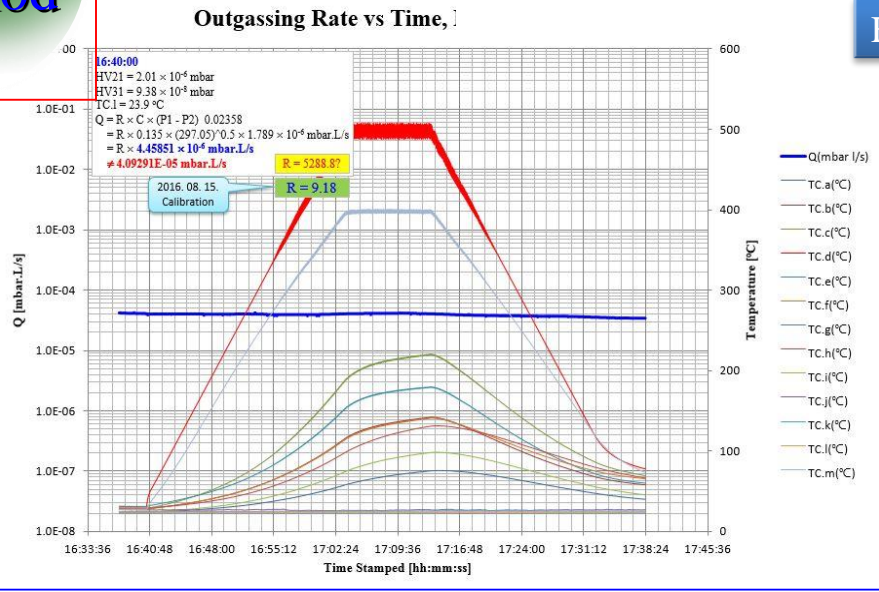


Fig. X

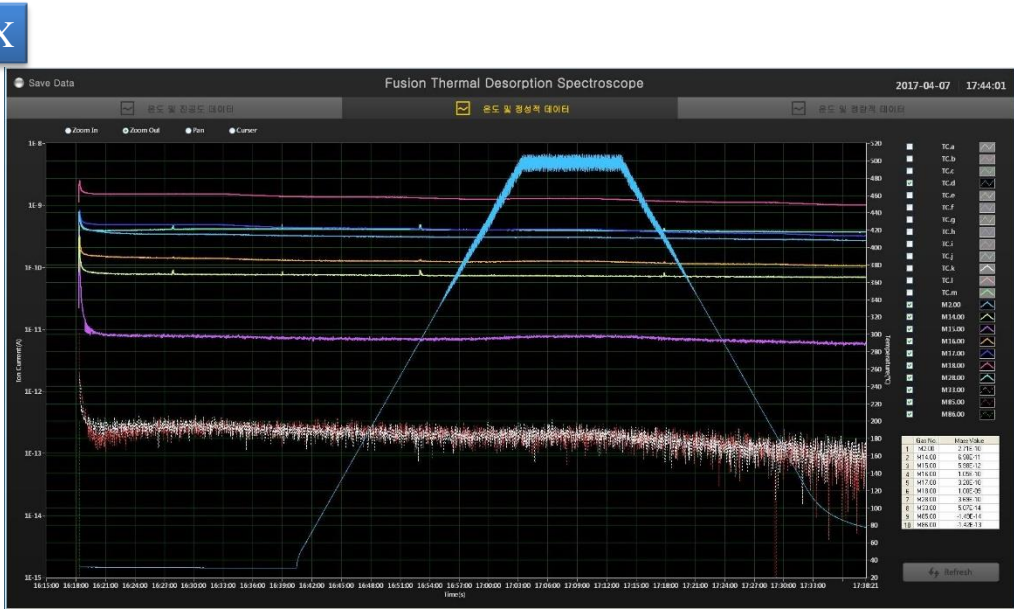
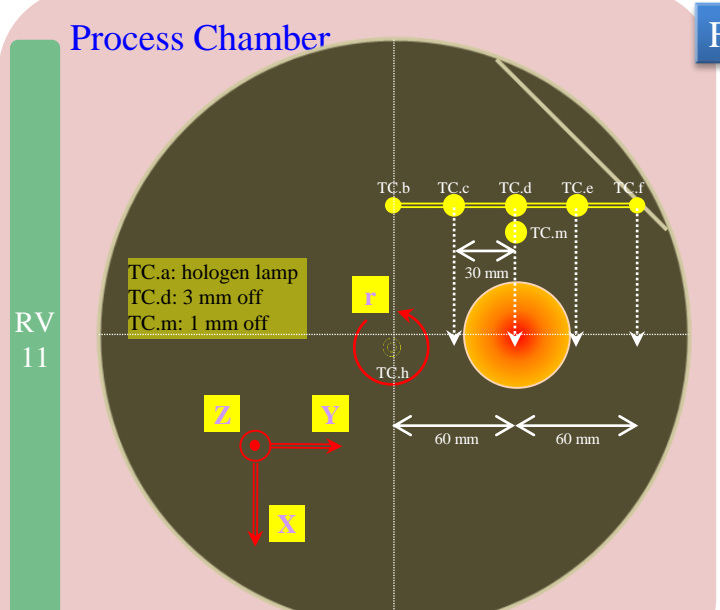


Fig. Y





# ftTDS Analysis: Wafer Sample

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Fig. 0

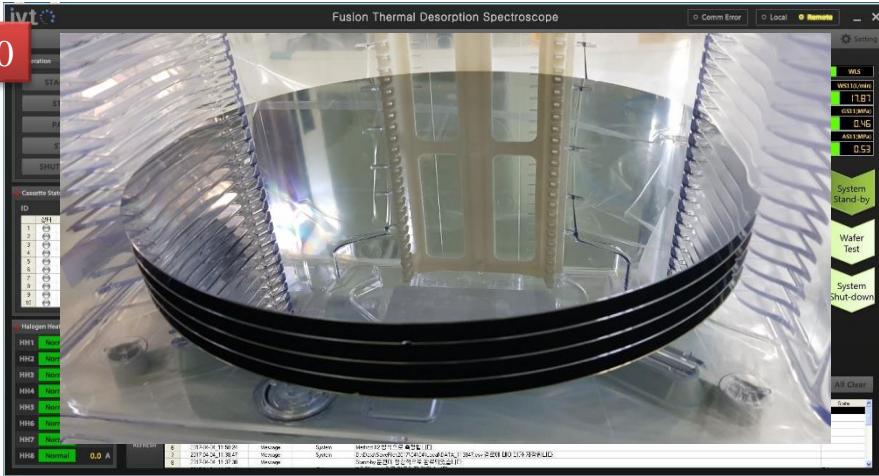


Fig. 1

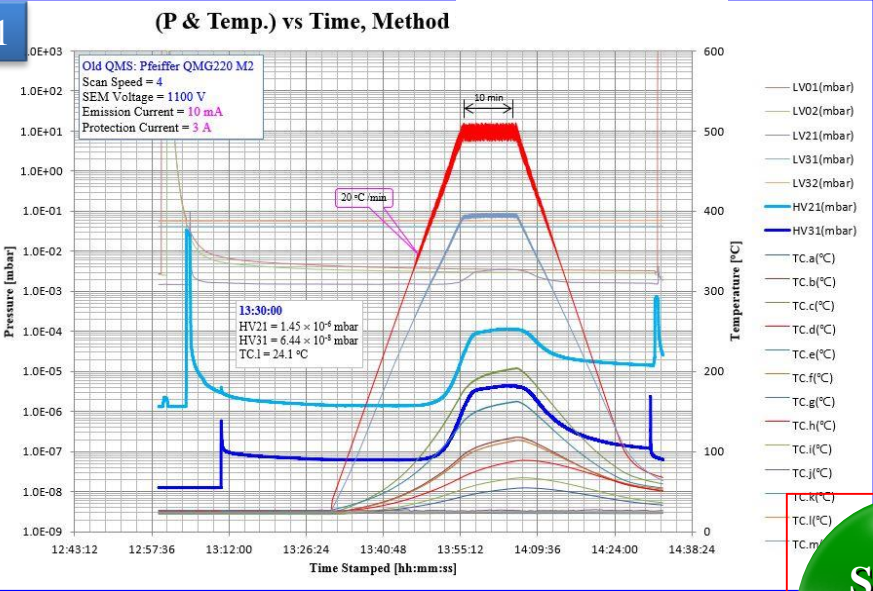
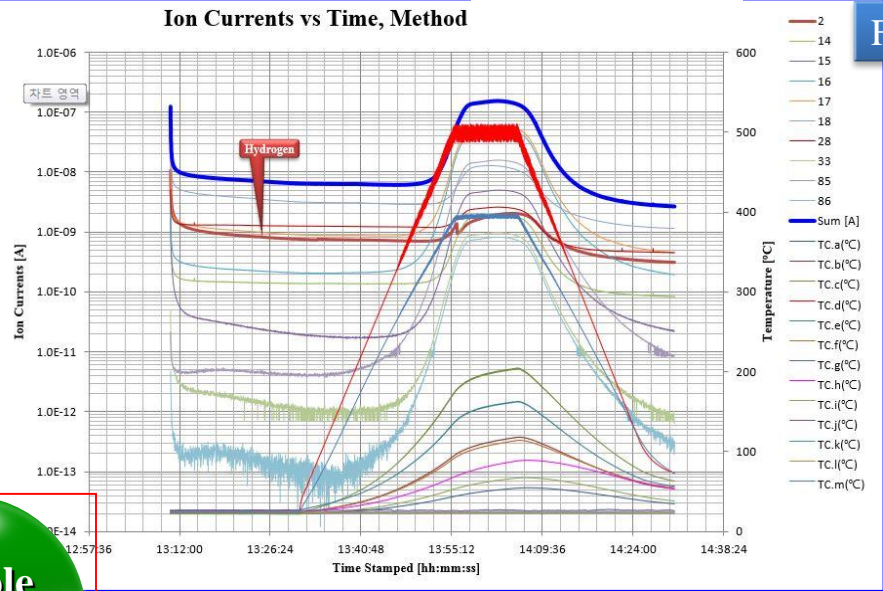


Fig. 2



Sample Method

Fig. 3

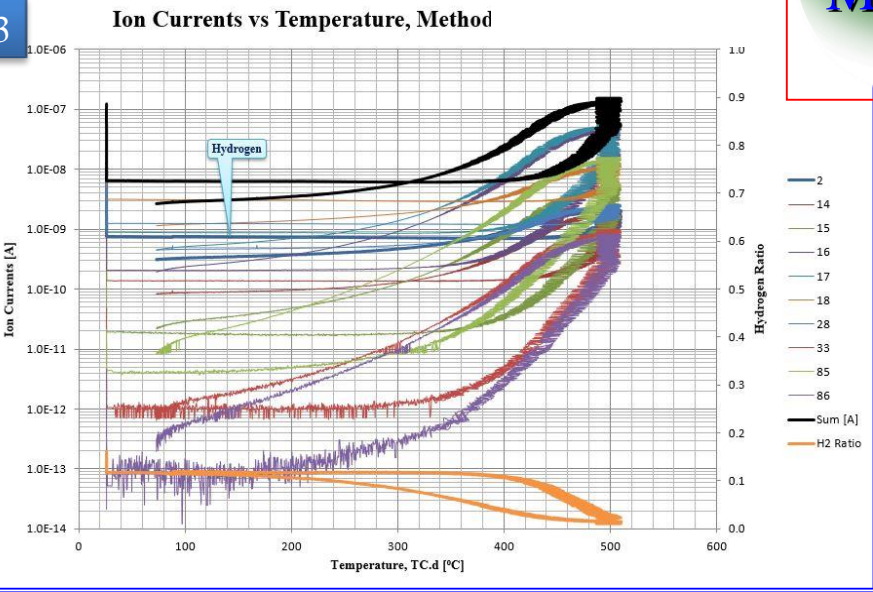


Fig. 4

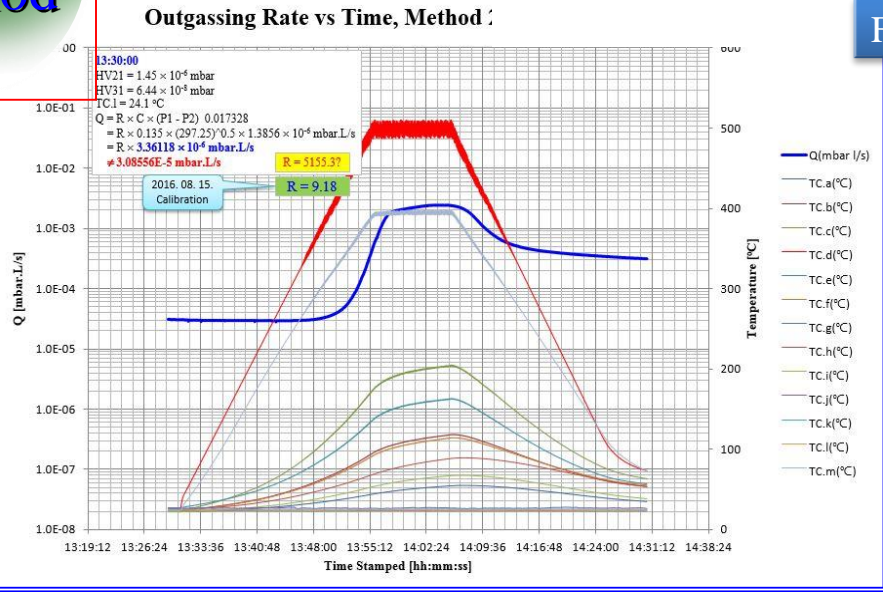


Fig. X

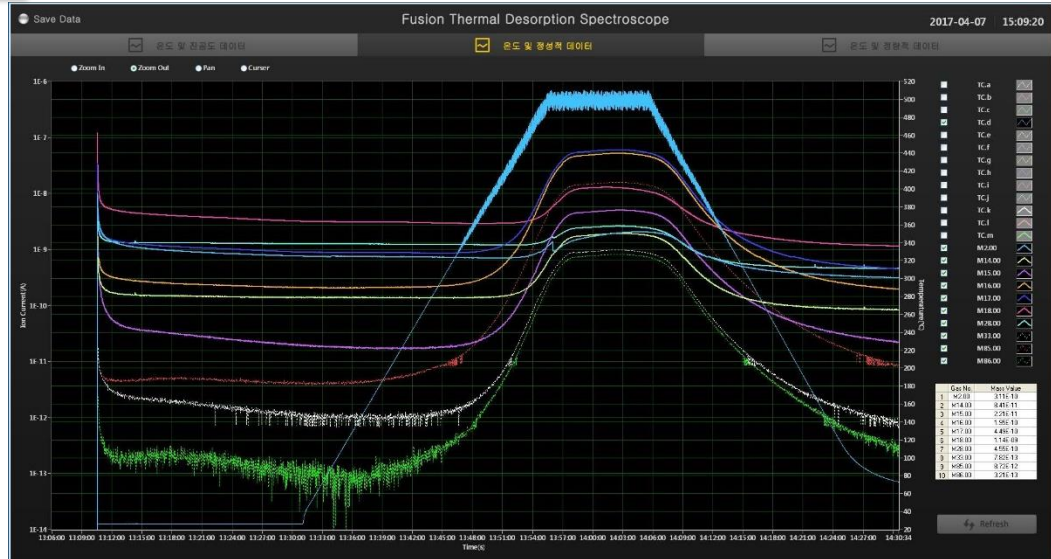


Fig. Y

