Process Gas Analyzer

Sensitive, real-time monitoring for end-point detection, plasma diagnostics, and process improvements

Features

- Fast and sensitive monitoring of species in semiconductor processes (e.g., etch, ALD)
- Resistant to harsh environments
- Custom configurations
- Compact architecture: easy to move and install
- Software API for integration into larger systems

Applications

- Real-time monitoring and diagnostics of semiconductor manufacturing processes
- Screening of etching processes

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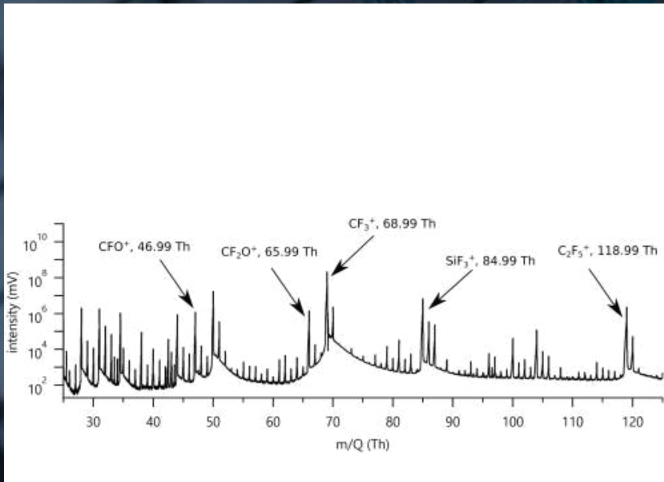
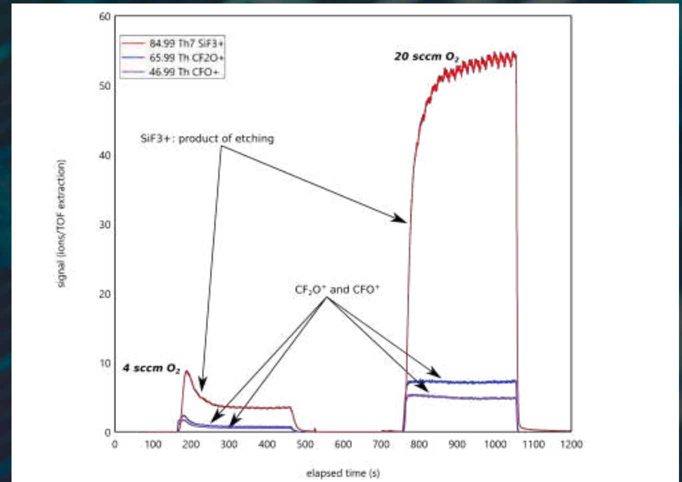
-CF_4 Plasma Etching of Si*



Silicon etching in a CF_4 and O_2 plasma



Time evolution of relevant species, effect of O_2 addition on the etch rate

*ETCH equipment provided by EMPA

- Real-time monitoring of the evolution of etch gases and all reaction products
- Plasma diagnostics based on traces of plasma species
- High dynamic range permits monitoring of both abundant and trace level compounds
- Sub-monolayer sensitivity
- Process fluctuations are easily detected (e.g. instability in plasma gas flow rates)

Specifications

	Corrosive Resistant	Operate in Any Position	Resolving Power (M/dM)	Size (cm)	Mass (kg)
pga TOF R	no*	yes	4000	90 x 40 x 53	85
pgaTOF 2R	yes	yes	8000	148 x 48 x 62	160
pga TOF S2	yes	yes	800	112 x 47 x 47	93

*corrosive resistant version readily available

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