Development of mitigation scenarios for neon glow discharge

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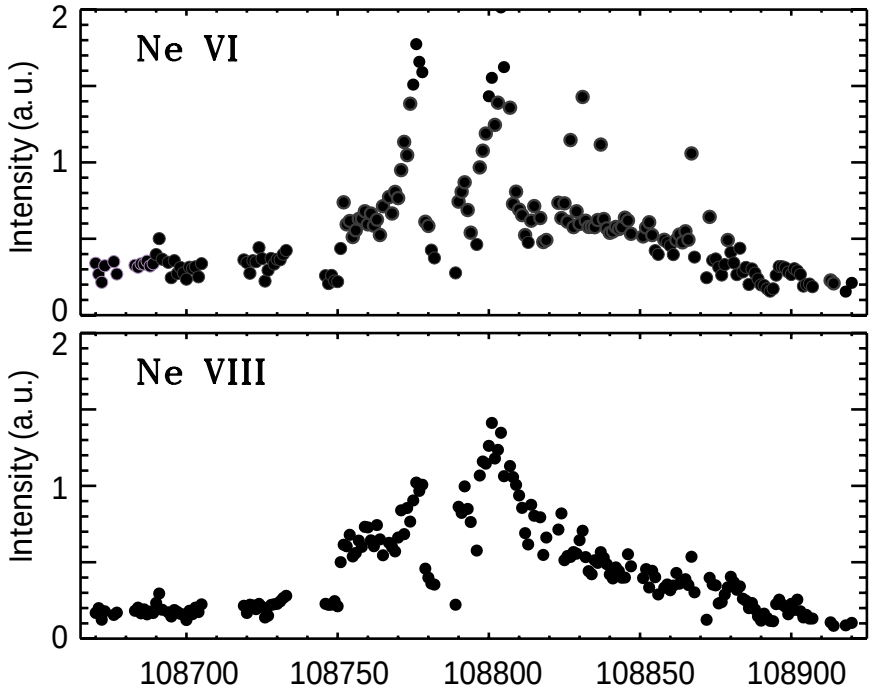
CHERS calibration with neon glow discharge was successful

- OP-XMP-025 “Neon glow for spectroscopic calibration” run in 2002
- Neon glow discharge was run for 1 hour, followed by HeGDC and TMB boronization
- Neon GD has proved to be an extremely useful *in situ* calibration technique for CHERS instrumental function calibration
- Followed by two days of XP-228 and XP-229 “Long pulse NBI plasmas” - no neon in plasma
- Plasma contamination by neon was detected on third day (XP-218r2 “HHFW CD”)
- Affected further plasma operation
- Memo with details will be distributed shortly after Forum

Neon buried in the wall affected plasma operations



- Neon line intensities did not correlate with RF power, inner gap, edge temperature and density
- Neon concentration subsided to undetectable levels in ~ 3 days of plasma operations
- Had slight impact on plasma performance (stored energy, confinement, MHD)

Need for systematic approach

- OP-XMP-025 “Neon glow for spectroscopic calibration” will be run in the future
- Need “before-after” characterization - run NBI (and HHFW ?) fiducials
- Do not boronize after NeGD (?)
- Need proper scheduling to avoid impact on plasma edge and Zeff sensitive XP’s