UF Herbert Wertheim College of Engineering
Department of Materials Science & Engineering
UNIVERSITY of FLORIDA

SWAMP Research Group

Update: Stability of APAM Doping in Si November, 14th, 2022

PRESENTED BY

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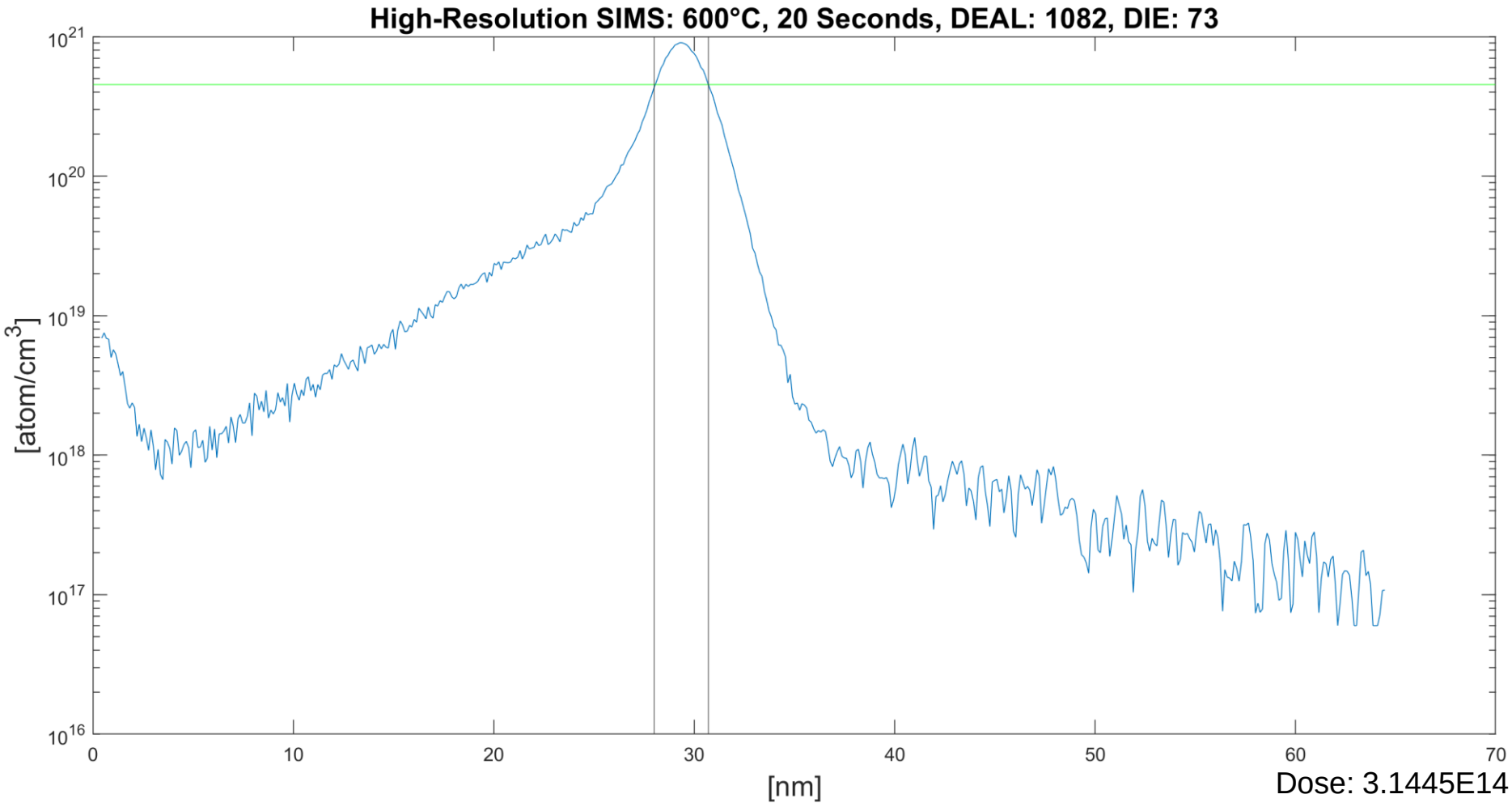
Sandia National Laboratories

APPLIED MATERIALS®

High-Resolution SIMS: Double Dose, 600C, 20s

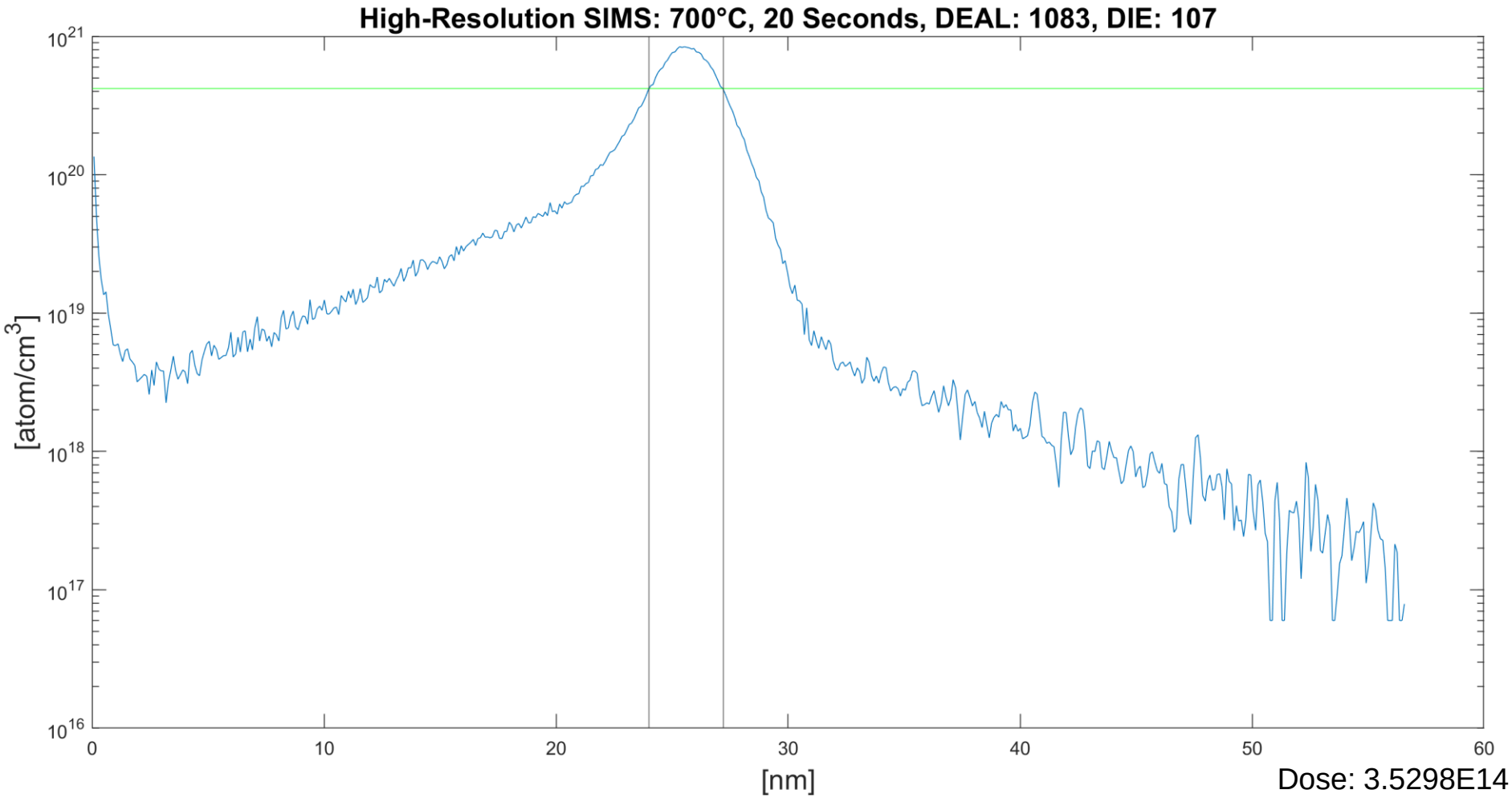


Dose: 3.1445E14 [atoms/cm^2]

Peak Concentration: 9.046E20 [atoms/cm^3]

Full Width at Half Max: 2.7 +/- 0.1 [nm]

High-Resolution SIMS: Double Dose, 700C, 20s

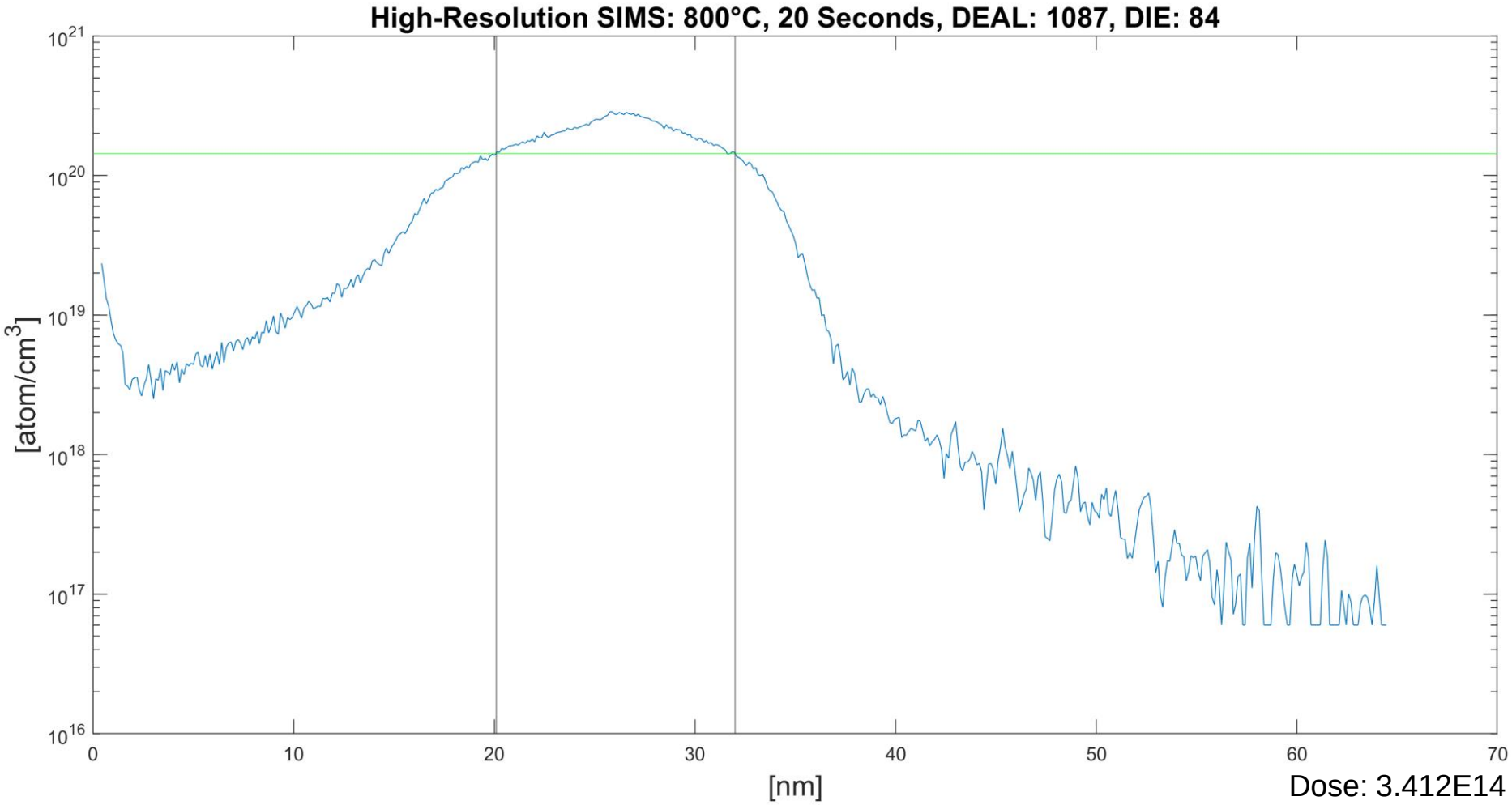


Dose: 3.5298E14 [atoms/cm^2]

Peak Concentration: 8.408E20 [atoms/cm^3]

Full Width at Half Max: 3.2 +/- 0.1 [nm]

High-Resolution SIMS: Double Dose, 800C, 20s

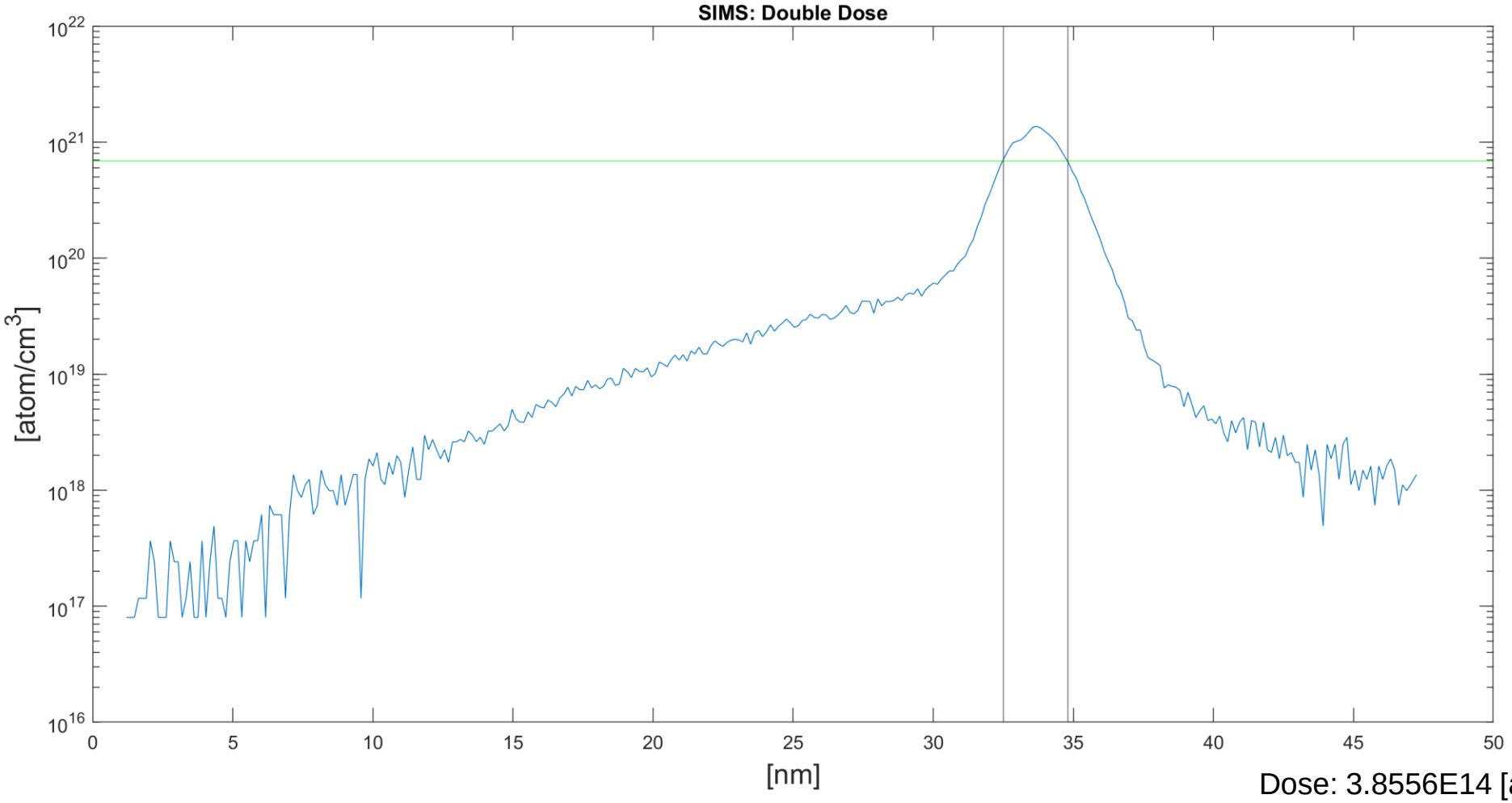


Dose: 3.412E14 [atoms/cm^2]

Peak Concentration: 2.858E20 [atoms/cm^3]

Full Width at Half Max: 11.9 +/- 0.1 [nm]

High-Resolution SIMS: Double Dose As Grown

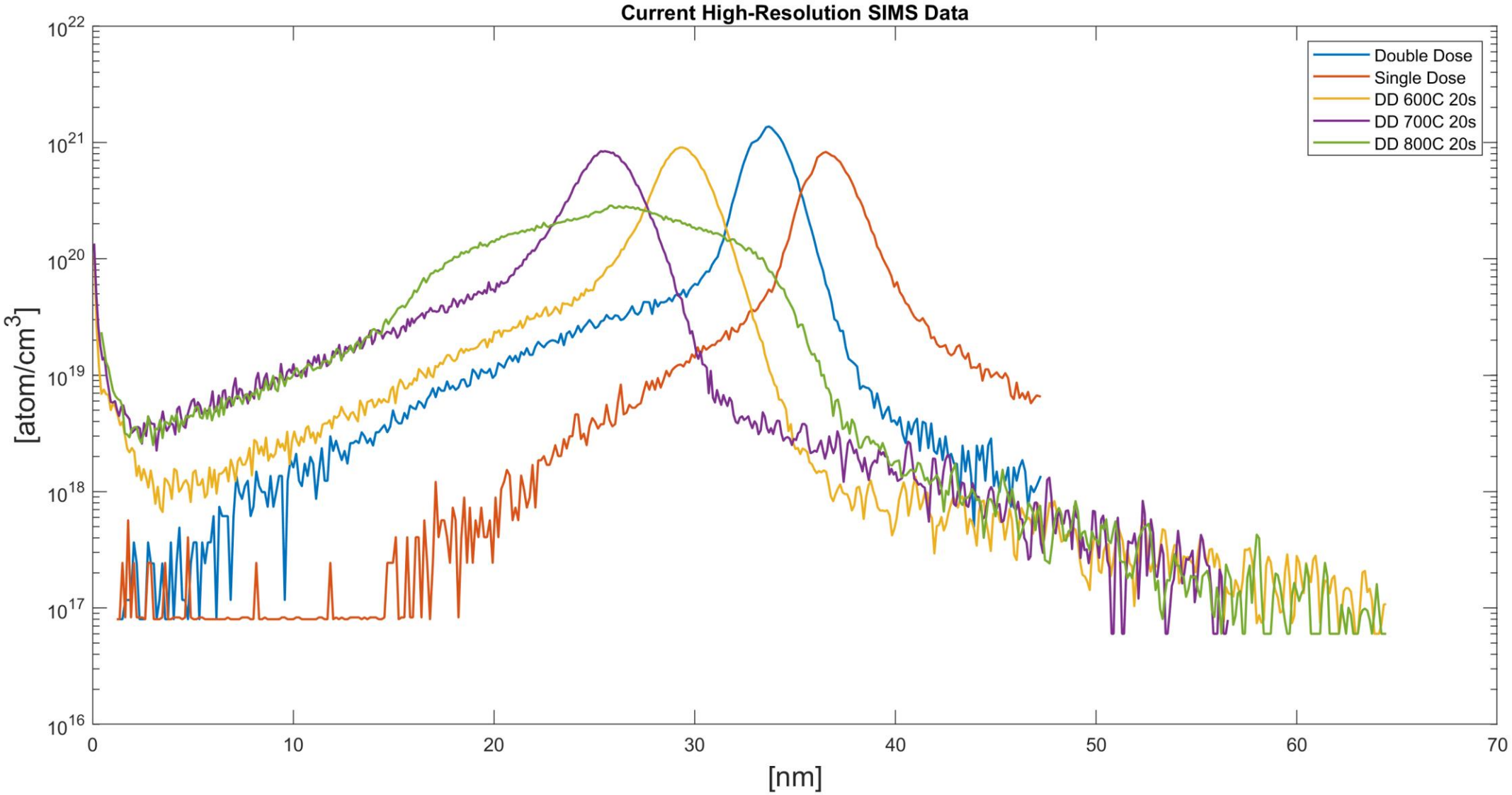


Dose: 3.8556E14 [atoms/cm^2]

Peak Concentration: 1.36973E21 [atoms/cm^3]

Full Width at Half Max: 2.3 +/- 0.1 [nm]

Current Library of High-Resolution SIMS Data



Current Library of High-Resolution SIMS Data

Sample	Peak Concentration [atoms/cm^3]	Dose [atoms/cm^2]	Full Width at Half Max (FWHM) [nm]
Double Dose As Grown	**1.36973E21**	**3.8556E14**	**2.3**
Double Dose 600C 20s	**9.046E20**	**3.1445E14**	**2.7**
Double Dose 700C 20s	**8.408E20**	**3.5298E14**	**3.2**
Double Dose 800C 20s	**2.858E20**	**3.4120E14**	**11.9**