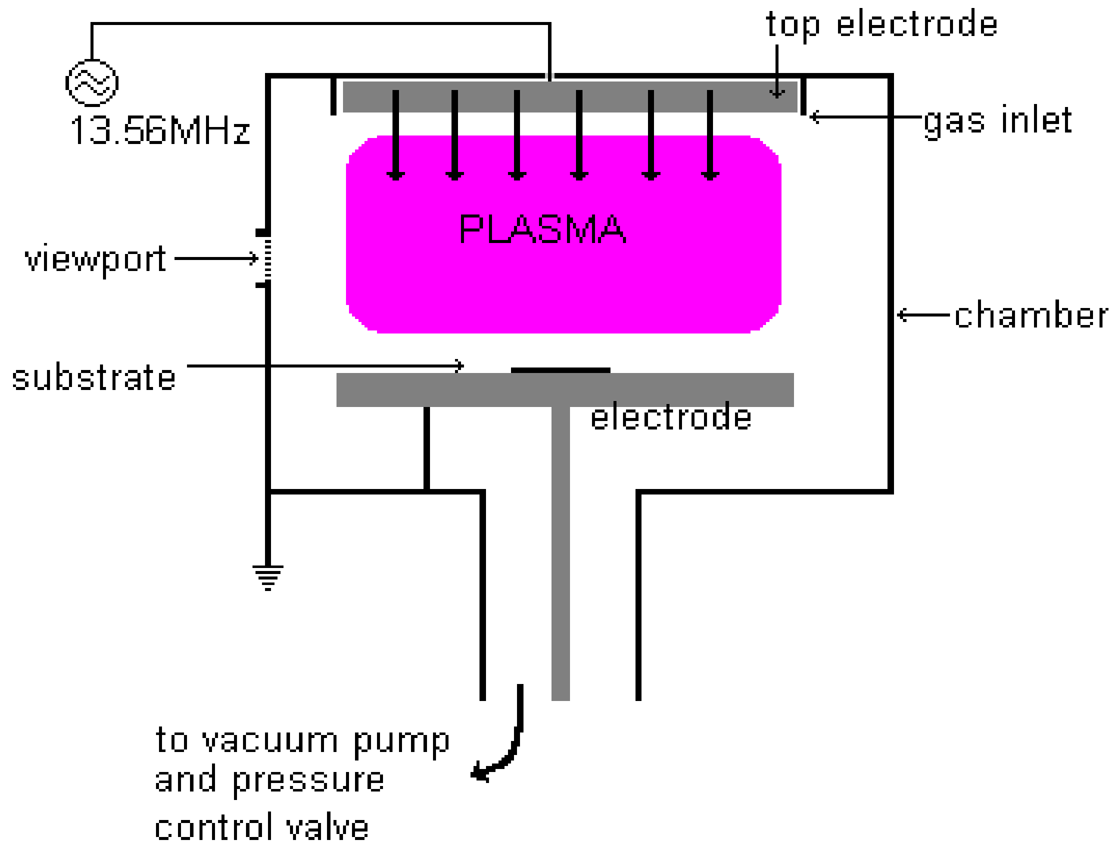
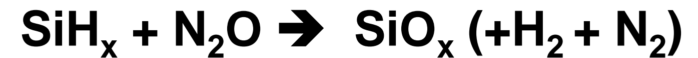
PECVD Plasma Conditions



Basic Processes

PECVD SiNx:

PECVD SiOx:



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PECVD Trends (SiH_4 based processes)

SiNx	Dep. rate	Refr. Index
↑ SiH_4 flow	↑	↑↑
↑ NH_3:SiH_4 ratio	↓	↓↓
↑ 13MHz power	↑↑	↓
↑ pressure	↑↑	

SiOx	Dep. rate	Refr. Index
↑ SiH_4 flow	↑↑	↑
↑ N_2O:SiH_4 ratio	↓?	↓
↑ 13MHz power	↑	↓
↑ pressure	↓?	

**Uniformity is measured as centre-edge

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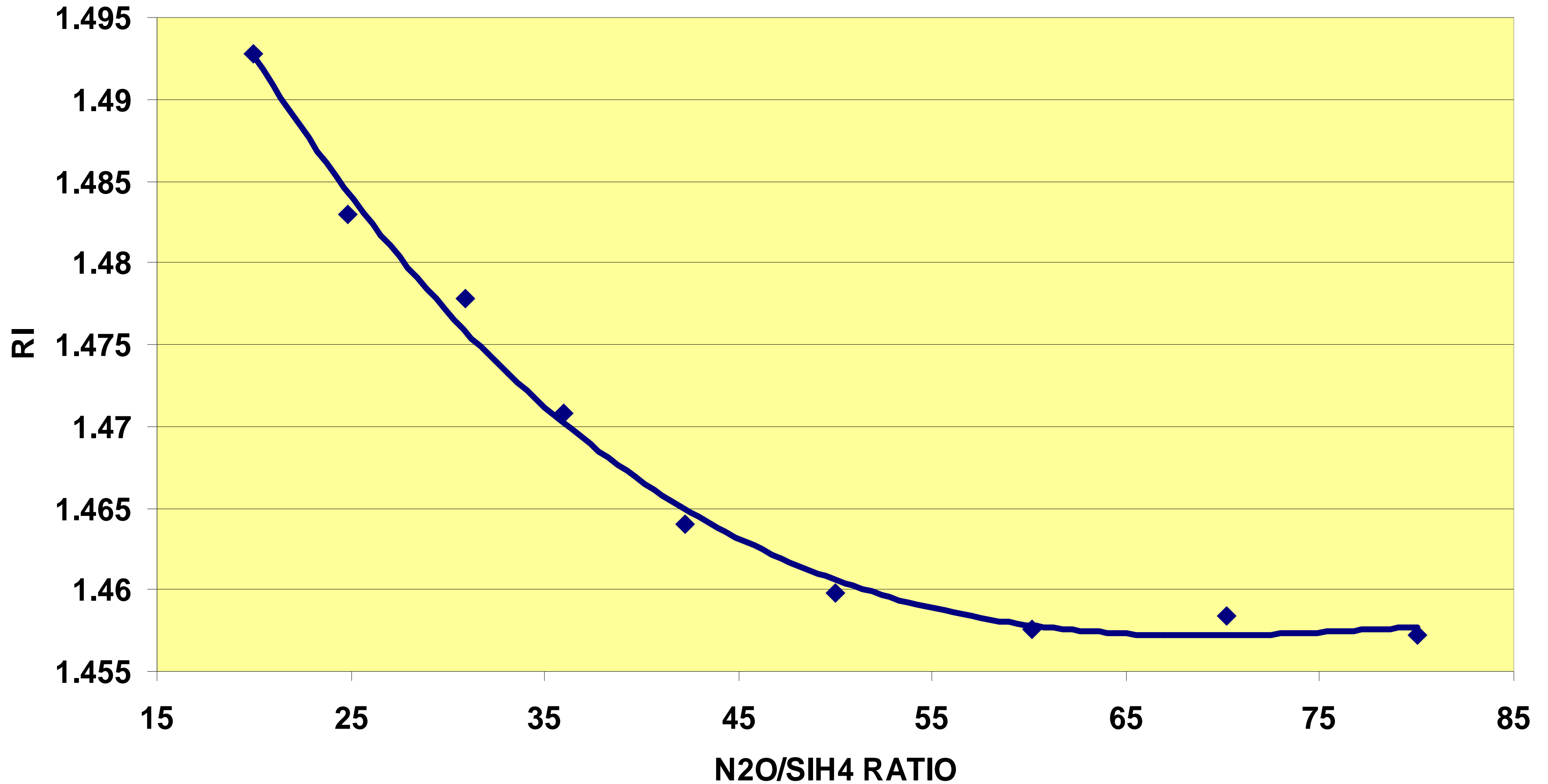
REFRACTIVE INDEX OF SILICON DIOXIDE: GAS FLOW (N20/SIH4 RATIO)



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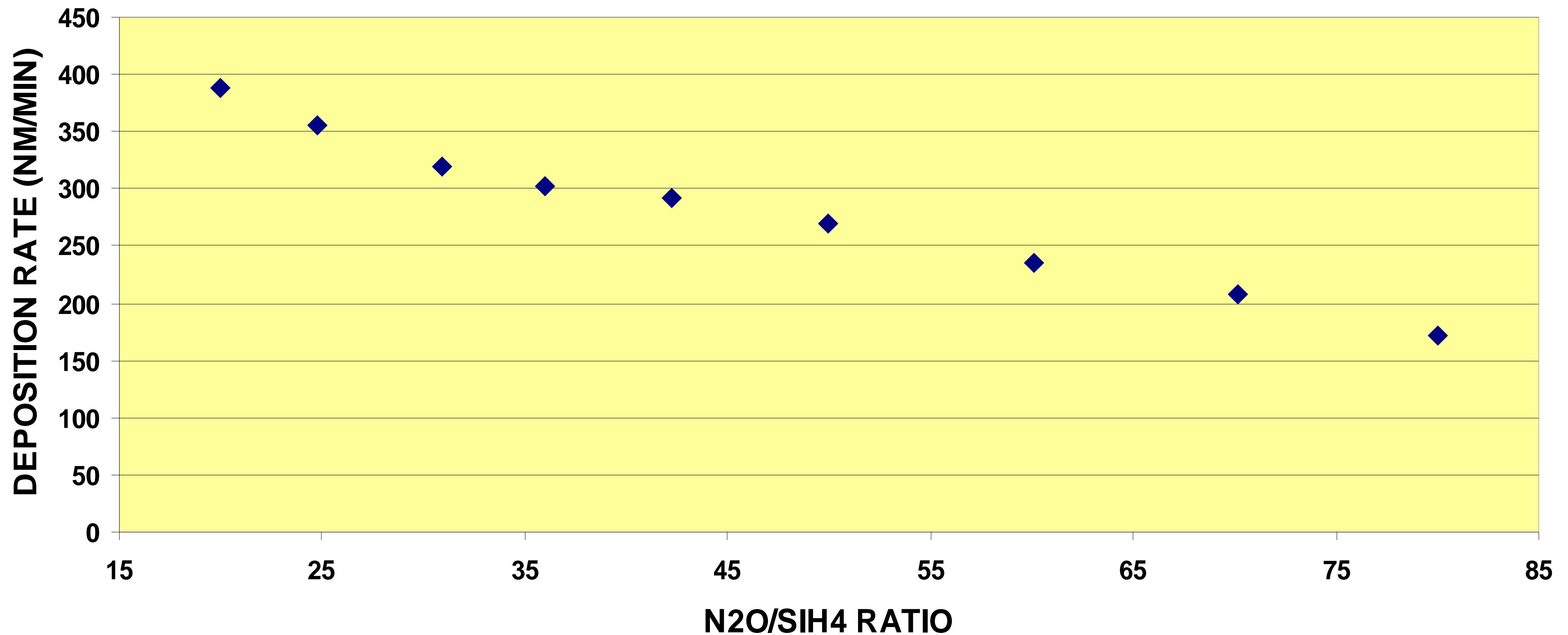
DEPOSITION RATE OF SILICON DIOXIDE: GAS FLOW (N2O/SIH4 RATIO) - (High rate process)



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