Boron Nitride Growth at Room Temperature Using Electron Enhanced Atomic Layer Deposition (EE-ALD)

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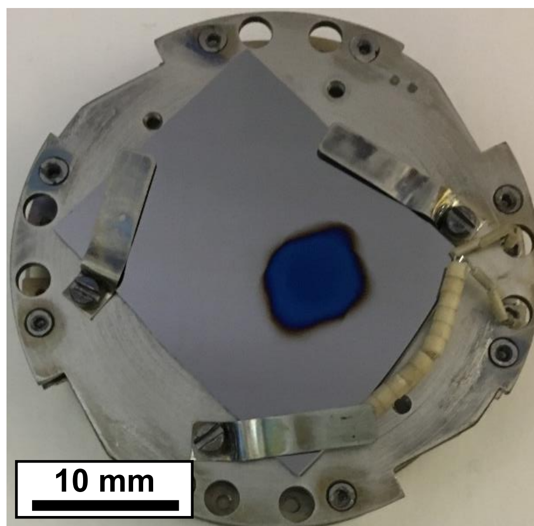

Figure 1: EE-ALD BN film (blue) growth spot on Si (111) wafer. Growth shape determined by electron flux across the substrate surface. Pictured film is ~90 nm thick from 2000 BN EE-ALD cycles.

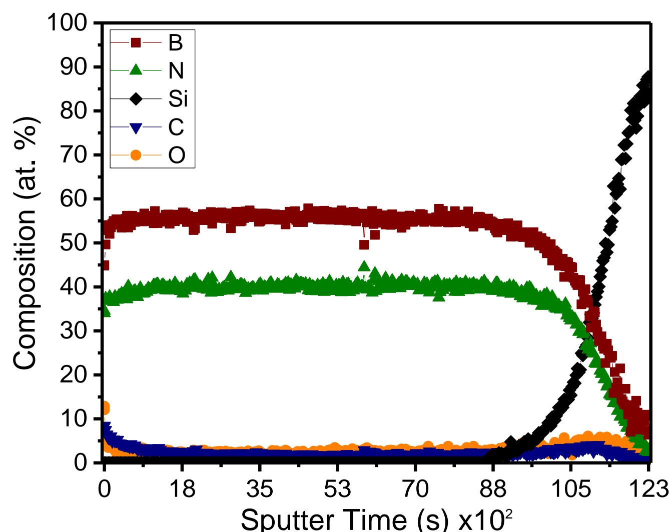

Figure 2: XPS depth profile of EE-ALD BN film grown on Si (111) wafer. BN composition is consistent throughout the film with a B/N ratio of 1.3/1. C and O concentrations are <3 at.% in the bulk of the film.