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Overview of linear plasma sources as applied to ribbon ion and plasma beam processing of scanned substrates

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Ribbon beams of ions and plasmas offer unique capabilities within scanned substrate processing techniques such as ion implantation, physical and chemical surface modification, etching and deposition. This talk will cover an overview of ribbon beam technology used across a range of applications, with examples from processing of silicon, glass, and flexible plastic substrates used within semiconductor, display and roll to roll web industries. Various types of linear plasma sources and methods of ion beam generation will be discussed. Of note are the very different types of plasma ion sources used, from magnetized dc discharges driven by thermionic cathodes to rf generated plasmas. The audience is encouraged to extrapolate to how ribbon beams can be used for their specific material processing needs.

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