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A scalable linear PECVD microwave source for transparent films

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Microwave induced plasma has many benefits, low ion energies with high plasma densities among others, but distributing the microwave emission uniformly for large area coatings (LAC) can be problematic. This talk demonstrates a source concept for LAC that uses an array of independent microwave emitters to build a scalable linear plasma source. Among other benefits the independent control of every emitter allows to achieve high uniformity and even locally compensate for non-uniform gas distribution by adjusting the emission power of every single emitter in the array. The design of those microwave emitters allows easy cleaning and operation in the same pressure range as typical magnetron sputter processes, allowing operation in hybrid process systems.

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