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Linear Ion Source Applications in Industry and Research

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Linear Ion Sources have been slowly pushing their way through into vacuum coating technology arena. Although these type of sources are not so widely used, there have been substantial efforts to bring the technology to new research and industrial fields. The main application is still dominated by ion cleaning pre-treatment of substrates prior to coating deposition in order to enhance the coating adhesion. This is now a common application for high end market products of some display coating applications. Indeed functional coating structures which are subject to extensive stress have shown remarkable improvements by the ion source pre-treatment. Within the families of ion sources the linear ion sources have offered a clear advantage in terms of controllability and scalability. The ability to reproduce and upscale processes from the small R&D to large industrial level has made this type of source an interesting proposition.
The present paper will present an overview of applications of the linear ion source in several fields and technologies of interest such as plasma polymerisation, ALD, nanotexturing, catalysis and clustering control. Some of these applications are at the research and development level but the development tools used make it a low risk for its implementation at the industrial level.

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