

Title (en)
PULSED ION BEAM ASSISTED DEPOSITION

Title (de)
MIT GEPULSTEM IONENSTRAHL UNTERSTÜTZTE BESCHICHTUNG

Title (fr)
DEPOT ASSISTE PAR FAISCEAU D'IONS PULSE

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Application
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Priority
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• US 37670295 A 19950123

Abstract (en)
[origin: WO9622841A1] The present invention is for a high-speed, commercial-scale means for deposition of films and coatings on a substrate. The PIBAD (pulsed ion beam assisted deposition) processes [Fig. 4] allow not only deposition, but also special modes of post-deposition treatment of films and coatings, including annealing, melting and regrowth [Fig. 4A], shock wave treatment, and high-pressure plasma redeposition [Fig. 4B] all of which can alter the mechanical, cohesive, and corrosive properties of the final product. In one embodiment of the invention the power system comprises a motor (5) which drives an alternator (10). The alternator delivers a signal to a pulse compression system (15) which has two subsystems, a 1 μ s pulse compressor (12), and a pulse forming line (14). The pulse compression system (15) provides pulses to a linear inductive voltage adder (LIVA)(20) which delivers the pulses to the ion beam source (25).

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