

FACILITY FOR APPLICATION OF EROSION- AND CORROSION-RESISTANT COATINGS ONTO TURBINE BLADES

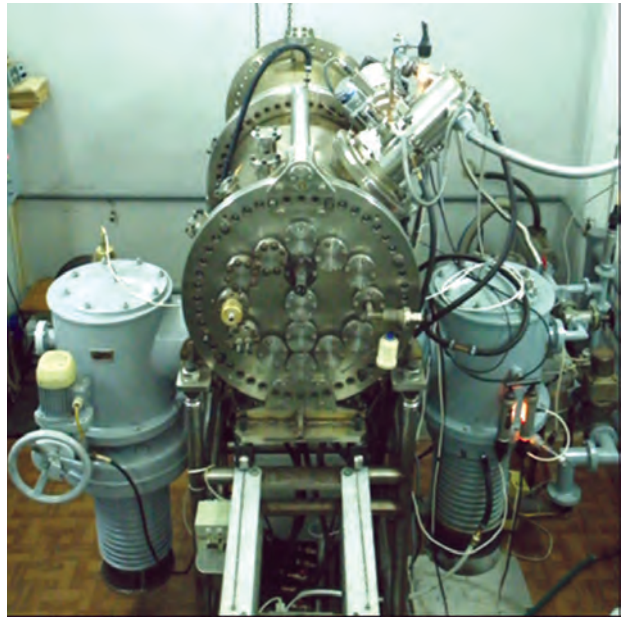
Areas of Application

Application of erosion- and corrosion-resistant coatings onto rotor turbine blades of thermal and nuclear power plants to enhance their reliability and efficiency

Specification

Coating technique: electron-beam evaporation, atomic-ion scattering.

Ion beam current, μA	1 – 1000
Electron energy, keV	60
Vacuum in chamber, Pa	10^{-4}
Power consumption, kV	1 – 60



Advantages

Unlike the conventional technologies for strengthening the rotor turbine blades (for example, soldering of stellite plates or application of superhard coatings in air environment), the suggested technology and facility for applying the double-layer erosion- and corrosion-resistant coating onto the turbine blades in vacuum increase their service life considerably (by 25 – 30%)

Stage of Development. Suggestions for Commercialization

IRL3, TRL4
Manufacture of single equipment samples by ourselves or jointly with potential partners

IPR Protection

IPR1, IPR2

Contact Information

Oleskii I. Voroshilo, Institute of Applied Physics of the NAS of Ukraine;
+38 054 222 46 08, +38 054 222 27 94, e-mail: voroshilo@ipfcentr.sumy.ua