

SPLINE for blades grids design.

Andrei Korshunov (St. Petersburg State Polytechnical University, Russia)

Vladimir Shershnev (St. Petersburg State Polytechnical University, Russia)

Ksenia Korshunova (TU Ilmenau, Germany)

Methods of designing blades grids of power machines, such as equal thickness shape built on middleline arc, or methods based on target stress spreading were invented long time ago, well described and still in use. Science and technology has moved far from that time and laboriousness of experimental research, which were involving unique equipment, requires development of new robust and flexible methods of design, which will determine the optimal geometry of flow passage. This investigation demonstrates simple and universal decision in methods of creating blades, which adequately responds to the initial data and amount of that data is significantly reduced. This solution is implemented with SPLINE function, which previously was used only to data approximation.