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Jet Array Impingement With Crossflow - Correlation of Streamwise Resolved Flow and Heat Transfer Distributions

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Jet Array Impingement with Crossflow - Correlation of Streamwise Resolved Flow and Heat Transfer Distributions L. W. Florschuetz, 1981 [Jet Array Impingement with Crossflow-correlation of Streamwise Resolved Flow and Heat Transfer Distributions](#) L. W. Florschuetz, 1981 **Jet Array Impingement with Crossflow - Correlation of Streamwise Resolved Flow and Heat Transfer Distributions** L. W. Florschuetz, 1981 Correlations for heat transfer coefficients for jets of circular orifices and impinging on a surface parallel to the jet orifice plate are presented The air following impingement is constrained to exit in a single direction along the channel formed by the jet orifice plate and the heat transfer impingement surface The downstream jets are subjected to a crossflow originating from the upstream jets Impingement surface heat transfer coefficients resolved to one streamwise jet orifice spacing averaged across the channel span are correlated with the associated individual spanwise orifice row jet and crossflow velocities and with the geometric parameters NTRL site

Impingement Jet Cooling in Gas Turbines R.S. Amano, B. Sundén, 2014-05-28 Due to the requirement for enhanced cooling technologies on modern gas turbine engines advanced research and development has had to take place in field of thermal engineering Among the gas turbine cooling technologies impingement jet cooling is one of the most effective in terms of cooling effectiveness manufacturability and cost The chapters contained in this book describe research on state of the art and advanced cooling technologies that have been developed or that are being researched with a variety of approaches from theoretical experimental and CFD studies The authors of the chapters have been selected from some of the most active researchers and scientists on the subject This is the first to book published on the topics of gas turbines and heat transfer to focus on impingement cooling alone [NASA Technical Paper](#) ,1984 **Jet Array Impingement Flow Distributions and Heat Transfer Characteristics** ,1982 *Scientific and Technical Aerospace Reports* ,1988 **Heat Transfer Characteristics Within an Array of Impinging Jets. Effects of Crossflow Temperature Relative to Jet Temperature** ,1985 Spanwise average heat fluxes resolved in the streamwise direction to one stream wise hole spacing were measured for two dimensional arrays of circular air jets impinging on a heat transfer surface parallel to the jet orifice plate The jet flow after impingement was constrained to exit in a single direction along the channel formed by the jet orifice plate and heat transfer surface The crossflow originated from the jets following impingement and an initial crossflow was present that approached the array through an upstream extension of the channel The regional average heat fluxes are considered as a function of parameters associated with corresponding individual spanwise rows within the array A linear superposition model was employed to formulate appropriate governing parameters for the individual row domain The effects of flow history upstream of an individual row domain are also considered The results are formulated in terms of individual spanwise row parameters A corresponding set of streamwise resolved heat transfer characteristics formulated in terms of flow and geometric parameters characterizing the overall arrays is described [Monthly Catalog of United States Government](#)

Publications United States. Superintendent of Documents, 1981 February issue includes Appendix entitled Directory of United States Government periodicals and subscription publications September issue includes List of depository libraries June and December issues include semiannual index Monthly Catalogue, United States Public Documents ,1981 **Gas Turbine Heat Transfer and Cooling Technology** Je-Chin Han, Sandip Dutta, Srinath Ekkad, 2012-11-27 A comprehensive reference for engineers and researchers this second edition focuses on gas turbine heat transfer issues and their associated cooling technologies for aircraft and land based gas turbines It provides information on state of the art cooling technologies such as advanced turbine blade film cooling and internal cooling schemes The book also offers updated experimental methods for gas turbine heat transfer and cooling research as well as advanced computational models for gas turbine heat transfer and cooling performance predictions The authors provide suggestions for future research within this technology and includes 800 illustrations to help clarify concepts and instruction **Thermal Engineering in Power Systems** Ryoichi Amano, Bengt Sundén, 2008 Research and development in thermal engineering for power systems are of significant importance to many scientists who are engaged in research and design work in power related industries and laboratories This book focuses on variety of research areas including Components of Compressor and Turbines that are used for both electric power systems and aero engines Fuel Cells Energy Conversion and Energy Reuse and Recycling Systems To be competitive in today's market power systems need to reduce the operating costs increase capacity factors and deal with many other tough issues Heat Transfer and fluid flow issues are of great significance and it is likely that a state of the art edited book with reference to power systems will make a contribution for design and R D engineers and the development towards sustainable energy systems Heat Transfer in Convective Flows R. K. Shah, 1989 Journal of Engineering for Power ,1983 Paper ,2001 Proceedings of the ASME Turbo Expo 2002 ,2002 ASME Technical Papers ,2001 Journal of Thermophysics and Heat Transfer ,2002 This journal is devoted to the advancement of the science and technology of thermophysics and heat transfer through the dissemination of original research papers disclosing new technical knowledge and exploratory developments and applications based on new knowledge It publishes papers that deal with the properties and mechanisms involved in thermal energy transfer and storage in gases liquids and solids or combinations thereof These studies include conductive convective and radiative modes alone or in combination and the effects of the environment Journal of Heat Transfer ,2008 **Previews of Heat and Mass Transfer** ,1993

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