CHRONICLE

INTER-NOISE 79

A successive Inter-Noise conference was held in Warsaw on September 11-13, 1979. Over 500 participants from 28 countries took part in it.

Sections

A. Mechanical noise
B. Aerodynamic noise
C. Noise measurements methods
D. Machinery noise
E. Engine noise control
F. Reduction of in – plant noise
G. Designing and planning for industrial noise control
H. Transportation noise abatement
I. Preventive shipboard noise control
J. Aircraft and airport noise
K. Environmental noise
L. Personal noise exposure
M. Noise control engineering in buildings.

At plenary sessions 5 general papers and 54 poster – form papers were delivered. The other part of the debates took place in four parallel sections, including 22 invited papers and 86 contributed papers.

Before the closing of the sessions, panel discussions were held, which summed up discussions in respective sections. Moreover, there was a special debate on the subject of training in the field of noise and vibration.

Conference materials consisting of 944 pages were published in two-volume proceedings.

List of papers delivered

General papers

R. W. B. STEPHENS, Education in acoustics.
S. CZARNECKI, Noise control in Poland.
P. E. DOAK, Progress in aerodynamic noise research and its implications for development of noise control measures.
T. KIHLMAN, Goals and means in industrial noise control.
W. W. LANG, G. MALING, Computer systems for noise control engineering.

Section A — Mechanical noise

Chairmen: W. SCHIRMER, Z. ENGEL

Invited paper

W. SCHIRMER, Engineering methods for computing of the radiation ratio of machine parts.

Contributed papers

M. E. Westcott, Impulsive noise from machinery: validation of prediction methods.

A. Brański, R. Panuszka, M. Zabawa, Sound radiation by a rectangular plate represented by a model in form of a system of rectangular pistons.

Poster-form papers

Z. Engel, H. Jaworowski, S. Kasprzyk, Experimental investigations of impact noise.

N. Kosińska, A. Śliwiński, Z. Trumpakaj, T. Zaleski, Numerical calculations of eigenfrequencies of circular plate with damping concentrically clamped with free periphery.

S. Czarnecki, Z. Engel, R. Panuszka, Estimation of equivalent surface area for determination of the acoustic power of a circular plate.

Section B — Aerodynamic noise

Chairmen: E. A. Müller, W. M. Jungowski.

Invited papers

J. Němec, Problems of similarity of fan noise.

W. M. Jungowski, G. B. Sobieraj, Influence of the outer shape of Hartmann-Sprenger generator on the radiated sound spectrum.

Contributed papers

B. Barsikow, W. Neise, Influence of nonuniform inflow conditions on centrifugal fan noise.

B. Michel, H. Arbey, M. Sunyach, Radiation from subsonic rotor operating in a non-uniform incident flow.

Y. N. Chen, U. Bolleter, Thermo-driven self-sustained vibration and noise of a supercritical reduction valve.

W. Neise, Flow noise level at microphones in flow ducts – determination via comparative measurement with noise cone and slit-tube.

P. Anglesio, E. Cirillo, Acoustic characterisation for combustion heads of forced draft burners.

Poster-form papers

S. Czarnecki, M. Czechowicz, T. Sobol, Aero-vibroacoustic feedback for the edgetone production.

W. C. Selerowicz, Relations between boundary conditions and acoustic effects of the free oscillating gas jets.

K. J. Witczak, Noise generated by annular gas jet at various geometry of its surroundings.

S. Stecco, E. Carnevale, A new pendulum detuner to reduce in-plant turbomachinery vibrations.

J. R. Piechna, Influence of operating conditions of a reciprocating compressor on the spectra of pressure pulsation and noise.

W. M. Jungowski, W. C. Selerowicz, W. J. Stojanowski, B. M. Niewczas, Prevention of the noise generated by the release of gas into the atmosphere.

Section C — Noise measurement methods

Chairmen: H. G. Leventhall, P. V. Brüel

Contributed papers

J. Tichy, Progress in the reverberation room method of sound power measurements.

M. J. M. Jessel, Some evidences for a general theory of active sound absorption.

H. G. Leventhall, K. Eghtesadi, Active attenuation of noise: dipole and monopole systems.

V. Chalupová, Calculation conditions of noise energetic spectra.
E. Eichler, Transmission loss revisited.
J. Stěnička, Impact testing aiming at the determination of structureborn noise transfer parameters.
M. Yanagida, D. G. Stuart, O. Kakusho, Noise separation by generalized inverse of matrices.
J. P. Sirieys, D. Commins, Comparative field study on noise monitoring systems.
T. Suzuki, A transmission coefficient in a spherical incidence wave.
I. L. Vér, M. M. Myles, Evaluation of the acoustic performance of anechoic chambers utilizing pulse response and transient spectrum.
M. Papp, On a new type of infrasound chambers.
E. Zwicker, Advantages of a precise loudness meter.
J. M. Lambert, Application of a modern intensity-meter to industrial problems: example of in-situ sound power determination.
K. Obermayr, Calibration of directional microphones in a sound measuring duct.
W. F. King III, On microphone arrays used to locate sound sources on moving vehicles.
J. E. K. Foreman, Instrumentation and procedures in the measurement and statistical analysis of attitudinal response of people to audible noise from high voltage transmission lines.

Poster-form papers

R. B. Randall, N. Thrane, Impulse analysis using a real-time digital analyzer.
E. Kozaczka, Z. Dolny, Application of the power cepstrum to determine the differences in arrival time between pulses in a duct.
M. Vogt, H. G. Leventhall, Elimination of secondary wave feedback in dipole active attenuators.

Section D — Machinery noise

Chairmen: J. Němec, C. Puzyna.

Contributed papers

M. L. Abrahams, J. S. Willims, D. J. Johns, Paper corrugating machinery: noise sources, measurements, analyses, and cures.
J. Motylewski, Measurement of noise emitted by moulding machines.
K. Szabo, Noise power level measurement at cement works.
V. Irmer, K. Stinshoff, Possibilities of noise reduction for lawn mowers.
V. Alić, M. Jevremović, Models of cybernetic approach to noise control in vacuum systems for water cooling below wet bulb temperature.
M. Makomaski, Influence of some constructional features on the noise from electric arc furnace.
T. Zieliński, Experimental and theoretical investigations of a barking drum model.
P. L. Timár, Technique of reducing the noise of electrical machines.

Poster-form papers

Ir. W. C. du Pre, Noise reduction of weaving looms.
A. G. Herbert, J. M. Burrows, Noise in blanking and piercing.
J. S. Anderson, I. S. Turfanda, Factors affecting the noise in piercing and blanking operations with a small punch press.
A. G. Herbert, Noise in press shops.
H. K. Tönshoff, H.-D. Raschke, A. Scherger, R. Westphal, Noise reduction on cutting processes with high-speed tools of different structure-sound excitation mechanisms.

J. Bednarowski, Influence of the geometrical parameters of a circular saw on the form of noise spectrum in the process of cutting of tubes and profiles.
P.-A. Berg, G. Lagerberg, Are pneumatic tool noise data useful for predicting working noise in steel structures.
J. Kaźmierczak, Some aspects of the non-stationarity of acoustic signals in the case of electric arc furnaces.
H. Łopatowa, Examination of acoustic field generated by the use of vibrotamper for sand moulding.
D. Augustyńska, Results of measurements of infrasounds emitted by piston compressors.
A. Wnuk, Methods and means of noise reduction in textile machinery.

Section E — Engine noise control.

Chairmen: D. Johns, A. Śliwiński

Invited papers

M. J. Crocker, Identifying sources of noise in engines and vehicles.
S. D. Haddad, Piston slap simulation rig — a fundamental tool to study piston slap induced vibration and noise in diesel engines.

Contributed papers

L. Łukaszek, Influence of exhaust conditions on the noise of four-stroke diesel engines.
N. Lalor, E. C. Grover, Mechanical noise associated with the crank mechanism of an engine.
A. F. Seybert, Identification of piston impact noise using a coherence method.
D. M. Waters, Light hovercraft noise control.

Section F — Reduction of in-plant noise

Chairmen: J. Tichy, W. Rostafiński.

Contributed papers

M. Bartenwerfer, On noise radiation from centrifugal fan casings.
M. Mirowska, Influence of structure on sound absorption properties of inorganic fibrous materials.

Poster-form papers

A. M. Gołaś, J. A. Zalewski, E. M. Zalewska, Use of the Monte-Carlo method for identification of acoustical field distribution in industrial interiors.
R. Janczur, S. Czarnecki, Influence of the shape and kind of acoustical treatment of ceiling on distribution of sound energy in a shallow room.
E. Kotarbińska, Influence of acoustic barrier on the field of refracted waves in a flat room.
R. Pompoli, Insertion loss of acoustic barriers in industrial halls.
J. Sułocki, K. Nogalski, N. Kosińska, An example of noise level reduction accompanying a modernization process in a factory.

Section G — Designing and planning for industrial noise control

Chairmen: P. François, R. Pompoli.

H. Bley, E.-L. Noe, Specific computer use for noise abatement in planning factories.
Y. Okamoto, H. Taira, A new programming system for noise prediction in a large industrial plant.

A. H. Fritz, G. Neugebauer, Predetermination of noise distribution in industrial halls to permit lay-outs with low-noise job positions.
H. Häggkvist, Methods of constructional noise control in Finnish industry.
J. Roberts, Designing and planning for noise control in coal preparation plants.
G. Alocci, A. Bladacconi, Industrial halls generated noise: state of art according to Italian legislation.
E. Azzaretto, I. Barducci, Criteria underlying noise control measures for single-blade disk saws used in woodworking.

Poster-form papers

B. A. Kugler, A model for the assessment and analysis of industrial noise problems.
J. Dmochowski, A. Bańka, Method determining the influence of design-failures at successive stages of the plant investment process on acoustic environment.
J. Scholze, Sound attenuation of ventilation apertures in exterior walls and roofs of wide-span workshops.

Section H — Transportation noise abatement

Chairmen: A. Lawrence, P. M. da Silva.

Invited paper

A. W. Lawrence, Variation in individual vehicle noise attenuation provided by a building facade.

Contributed papers

G. Blücher, A. Skold, Joint Nordic computing model for predicting road traffic noise levels.
O. Abdel Alim, Road traffic noise as a stochastic process.
N. Wang, A noise control conoid model for traffic noise simulation.
D. J. Martin, Low frequency traffic noise and building vibration.
J. Kragh, Motorways noise propagation and screening under varying metereological conditions.
A. Moerkerken, H. J. L. van Wijk, Meteorological influences on the transmission of traffic noise.
C. Larsson, S. Israelsson, Influence of the metereological parameters on the sound propagation from a traffic road.
U. Sandberg, A road surface for reduction of tire noise emission.
S. Sato, H. Matsuhisa, Wheel-rail noise reduction of rail rapid transit.
V. Kunzl, Acoustic pulse – a useful tool of vehicle internal noise investigation and control.
S. Kurra, A computer model for predicting sound level distribution behind the buildings which are to be used as barriers against traffic noise.

Poster – form papers

R. J. Beracha, Prediction of the traffic noise in residential areas.
H. S. Al-Samarrai, D. M. Waters, Noise from interrupted traffic flows.
S. Czarnecki, E. Sławińska, J. Szuba, Highway noise control inside a residence by using the barriers.
D. C. Hothersall, R. R. K. Jones, Computer simulation of road traffic noise in the region of roundabouts.
T. E. Granquist, Development of the national traffic noise abatement programme in Norway.
R. Castelli, S. Manicardi, Some aspects of noise emissions of Grand Prix motorcycles.

Y. Ugai, S. Suzuki, Infrasound from centrifugal fans used in subway ventilating equipment, and infrasound control.
J. Miazga, K. Janicka, Road traffic noise on major highway outlets of Warsaw.

Section I — Preventive shipboard noise control

Chairmen: J. H. Ødegaard-Jensen, J. Verheij.

Contributed papers

J. H. Janssen, Simultaneous shipboard noise-and-vibration annoyance rating.
J. Buiten, H. Aarsten, Simplified method for predicting sound level A in accomodation spaces aboard sea-going motorships.
J. L. Goldberg, N. H. Clark, J. A. Lund, A study of noise-generating mechanisms in fast 16 – metre patrol craft.
E. Brubakk, Noise control on small ships – with special reference to supply ships and tugs.
J. Ødegaard-Jensen, H. Holm, Noise reduction in the accomodation of ships by means of "constrained layer" damping.
S. Weyna, Vibro-acoustic tests of ship cabins ceilings.
M. J. A. de Regt, Transfer of structure-borne sound to ship's cabin.
K. Fukuzawa, C. Yasuda, Studies on structure-borne sound in ships.
J. W. Verheij, Airborne sound transmission via the cavity under a resiliently mounted ship diesel engine.
M. Ohlrich, Response of bedplates and the transmission of structureborn sound on ships.
A. Nilsson, Propeller induced hull plate vibrations.
E. Kozaczka, Investigation of the noise transmission into ship hull produced by a ship propeller.
U. P. Tyvand, B. Persson, Prediction of noise from a cavitating propeller.
A. Løvik, Scaling of propeller cavitation noise.
A. de Bruijn, Acoustic source strength of propeller cavitation.
H. P. Steenhoek, Resilient mounting of medium speed diesel engines in ships.

Poster-form papers

A. Rauch, Flexible approach to analysis of experimental model.

Section J — Aircraft and airport noise

Chairmen: J. B. Large, J. Šulc.

J. B. Large, M. E. House, The status of airport noise prediction.
K. Matschat, E.-A. Müller, How to estimate the differences between two aircraft noise indices without full knowledge of the leveltime-history.

Contributed papers

D. Commins, J.-P. Sirieys, Short term equivalent levels for the evaluation of aircraft noise.
G. Nishinomiya, F. Suzuki, F. Sasaki, Aircraft noise identification system by correlation technique.
D. E. Bishop, Current aircraft modelling concepts for developing aircraft noise exposure contours.

B. N. Lohani, H. Karwarz, W. Phothipichitr, Aircraft noise at Bangkok international airport.
G. H. Vulkan, Aircraft noise monitoring for local authorities.

Poster-form papers
T. Ono, M. Okuda, I. Ono, N. Hayashi, G. Nishinomiya, F. Suzuki, F. Sasaki, Aircraft noise monitoring system with identification by correlation technique.
J. Šulc, J. Hofr, Noise and pressure fluctuations on the fuselage of light propeller driven aircraft.
A. Rudiuk, Problem of repeatability of results during the helicopter noise measurements.

Section K — Environmental noise

Chairmen: Z. Maekawa, W. Straszewicz.

Invited papers
A. Komorn, A general method for objective description of noise environments.
P. M. da Silva, Urban noise, noise prediction models.
M. Aoki, K. Konishi, Practical technique on the m-sequence correlation method applied to measurements of long distant noise propagation.
K. Konishi, M. Aoki, Measurement of the long distant noise propagation over ground.
Z. Maekawa, M. Morimoto, Measurement of the long distant noise propagation over sea.
R. Seznec, Integral equation technique for computing sound attenuation by wide barriers.
D. Hahault, G. Corsain, P. Filippi, Ground effect: a new theoretical approach and experimental results.
B. Meriel, Noise in a French medium size town – an example of Blois.
D. C. Stevenson, R. H. Palmer, Background noise level variations in a suburban environment.
H. Ono, S. Saito, H. Fukuda, K. Mizoi, K. Nakashita, Development of a vibratory pick-up type microphone and communication devices for daily use.
R. Kürer, V. Irmer, Noise reduction by legislative incentives demonstrated by the lawn mower ordinance of the Federal Republic of Germany.

Poster-form papers
S. Israelsson, C. Larsson, Metereological data for determination of sound propagation in the atmospheric surface layer.
M. Munteanu, Estimation of noise annoyance effect with a new noise pollution level LNP index.
R. J. Kucharski, M. Bareński, Projected evidence system for main sources of outside noise.
E. G. Terry, Measurements in low noise environments.
J. C. Tukker, Noise control alternatives for Zandvoort racing circuit.
J. Abłamowicz-Potapowicz, Protection of sanatorium and hospital buildigs from noise made by free-standing generating sets.

Section L — Personal noise exposure

Chairman: E. Zwicker.

Invited papers
S. Namba, S. Kuwano, An experimental study on the relation between long-term annoyance and instantaneous judgment of level-fluctuating sounds.

S. Kono, T. Sone, T. Nimura, A study on personal noise exposure in three cities different in population.
P. V. Brüel, Limits for intrasound and ultrasound in factories.

Contributed papers
M. Kumagai, T. Sone, T. Nimura, A study on the loudness of impact sound.
M. M. Hawkins, Human response to domestic appliance sound.
M. Vallet, J. M. Abramowitch, J. Lambert, Subjective effect of a roadside barrier: a case study at L'Hay Les Roses.
V. Velas, K. Přerovsky, Hygienic aspects of the control of noise in railway transport.
J. Starck, B. Godenhielm, K. Perkiö, Effect of helmet-liners on the attenuation of earmuffs.

Poster-form papers
T. Poulsen, Measurements on hearing protectors.
D. Trynkowska, R. Michalski, Attenuation and classification of ear protectors.
W. Sułkowski, A. Lipowczan, Impulse noise induced hearing loss in drop forge operators.

Section M — Noise control engineering in buildings

Chairmen: A. Illenyi, J. Sadowski.

Invited paper
D. N. Keast, Acoustic location of air-infiltration openings in buildings.
E. E. Unger, L. E. Wittig, A. Paolillo, Propagation of vibrations and noise from New York subway tunnels into nearby buildings.
S. Czarnecki, A. Rakowski, A. Różycki, J. Smurzyński, Reduction of piano noise in living apartments.

Special punel session

Education in noise control engineering.

Stefan Czarnecki (Warsaw)

XXVI Open Seminar on Acoustics

Oleśnica 17-25 September, 1979

XXVI Open Seminar on Acoustics was held at Oleśnica near Wrocław on September 17-21, 1979. The conference was sponsored by Committee on Acoustics of Polish Academy of Sciences, Wrocław Division of Polish Acoustical Society and Institute of Telecommunication and Acoustics of Wrocław Technical University. The chairman of the Organizing Committee was Prof. Zbigniew Żyszkowski. The conference was attended by 182 participants, including 8 foreign guests.

The sessions of the Seminar were held in three sections:

A. Speech, telecommunication, and physical acoustics, electroacoustics and signal processing.

B. Musical, psychological, building, and interior acoustics, and problems of noise, vibration and infrasound.

C. Quantum and molecular acoustics, hydroacoustics and ultrasound technique.

3 plenary papers concerning speech acoustics and 102 papers in sections were delivered. Moreover, there were 4 round table sessions on the problems of computer analysis of acoustic signals, methods of contemporary psychoacoustics, acoustooptics and holography, and the current problems of shaping the acoustic environment.

Andrzej Dobrucki (*Wrocław*)