6. Publications — Publikationen

"IABSE Memoires" published in 1976

Volume 36–I

P. Ansourian, (Australia)
Connections to concrete-filled tube columns *
Attaches à des colonnes formées de tubes remplis de béton
Anschlüsse an betongefüllte Hohlprofilstützen

J.H. Argys, K.S. Pister, K.J. Willam (GFR)
Thermomechanical creep of aging concrete — A unified Approach *
Fluage thermomécanique de béton vieillissant — Une approche synthétisant plusieurs méthodes
Thermomechanisches Kriechen von alterndem Beton — Zur Vereinheitlichung der Kriechverfahren

C.J. Billington, P.J. Dowling, (United Kingdom)
The influence of skew supports on the behaviour of multibox bridges *
Influence d'appuis biais sur le comportement de ponts à caissons multiples
Einfluss schiefer Auflager auf das Verhalten mehrzelliger Kastenträgerbrücken

D.C. Black, V.A. Pulmano, A.P. Kabaila (Australia)
Flat plates supported on walls *
Dalles plates supportées par des parois
Durch Wandscheiben gestützte Flachdecken

H.R. Evans, K.C. Rockey, (United Kingdom)
An experimental and finite element study of the behaviour of felded plate roofs containing large openings *
Une étude expérimentale et par éléments finis sur le comportement de structures plissées avec de grandes ouvertures.
Eine experimentelle und mit finiten Elementen durchgeführte Studie über das Verhalten von Faltwerken mit grossen Oeffnungen

F. Fujii, T. Kajita, M. Naruoka, (Japan)
A procedure for the evaluation of the ultimate load of plates by the finite element method
Un procédé d'analyse de la charge ultimate des dalles moyennant la méthode des éléments finis
Ein Berechnungsverfahren zur Grenztragfähigkeits-Untersuchung der Platten mittels der Methode der finiten Elemente *

M.R. Horne, R. Narayanan, (United Kingdom)
Strength of axially loaded stiffened panels *
Résistance de panneaux raidis comprimés
Traglast längsversteifter, zentrisch gedrückter Plattenfelder

R. Maquoi, Ch. Massonnet, (Belgium)
Testing of postcritical strength of stiffened compressed flanges in six box girders
Vérification expérimentale de la résistance posticritique des semelles comprimées raidies sur six poutres en caisson *
Experimentelle Ueberprüfung der überkritischen Traglast von längsversteiften Druckblechen an sechs Kastenträgern

T.A.C.M. Van der Put, (Netherlands)
Rigidity of structures against aerodynamic forces *
Rigidité des constructions et forces aérodynamiques
Steifigkeit von Baukonstruktionen gegenüber aerodynamischen Kräften

* Language in which the article is presented — a summary is given in English, French, German.

Volume 36-II

BG, IPEN, CEBAP, (Switzerland)
Studies and tests on model of a prestressed concrete nuclear vessel with multiple cavities
Etude et essais sur modèle d'un caisson de réacteur en béton précontraint, à cavités multiples *
Studien und Modellversuche an einem mit Hohlräumen durchsetzten Reaktordruckgefäss aus vorgespanntem Beton

F. Cheong-Siat-Moy, Le-Wu Lu, (USA)
Stiffness and Strength Design of Multistory Frames *
Critères de rigidité et de résistance pour les cadres étagés
Steifigkeits- und Festigkeitskriterien beim Entwurf von Stockwerkrahmen

J.M. Davies, F. Thompson, (Great Britain)
Light gauge steel folded plate construction *
Toits plissés formés d'éléments minces en acier
Faltwerke aus Stahlleichtprofilen

M.-H. Derron, J. Jirousek, (Switzerland)
Space-curved rod elements
Eléments spatiaux de barres courbes *
Räumlich gekrümmte Balkenelemente

R. Favre, P. Kropf, (Switzerland)
Friction tests on sliding bearings
Mesures du frottement d'appuis glissants
Reibungsmessungen an Gleitlagern *

J. Grob, B. Thürlimann, (Switzerland)
Ultimate strength and design of reinforced concrete beams under bending and shear *
Résistance et dimensionnement des poutres en béton armé soumises à la flexion et à l'effort tranchant
Bruchwiderstand und Bemessung von Stahlbetonbalken unter Biegung und Schub

K.H. Chu, M. Jones, (USA)
Theory of dynamic analysis of box girder bridges *
Théorie d'une analyse dynamique de ponts à poutres en caisson
Theorie einer dynamischen Berechnung von Kastenträger- - brücken

K.H. Chu, M. Jones, (USA)
Dynamic analysis of a box girder bridge *
Analyse dynamique d'un pont à poutres en caisson
Dynamische Berechnung einer Kastenträgerbrücke

P. Müller, (Switzerland)
Failure mechanisms for reinforced concrete beams in torsion and bending *
Mécanismes de ruine pour des poutres en béton armé soumises à la torsion et à la flexion
Bruchmechanismen für Stahlbetonbalken unter Torsion und Biegung

K.S. Virdi, P.J. Dowling, (Great Britain)
A unified design method for composite columns *
Une méthode unifiée de calcul des colonnes mixtes
Eine vereinheitlichte Methode für den Entwurf von Verbundstützen

U. Walder, E. Anderheggen, (Switzerland)
The computer program FLASH
Le programme FLASH
Das Computerprogramm FLASH *

Each volume — at SFr. 50.-- for IABSE members; SFr. 75.-- for non members; plus mailing costs — may be ordered at IABSE Secretariat, ETH-Hönggerberg, CH — 8093 Zürich.

Planning, Design and Construction of Structures
10th Congress of the IABSE, Tokyo 1976

Introductory Report, 304 pages, 17 papers, (1975)
Price 1: SFr. 65.--; 2: SFr. 100.--

Preliminary Report, 600 pages, 88 papers, (1976)
Price 1: SFr. 90.--; 2: SFr. 135.--

Final Report, 504 pages, 89 papers, (1977)
Price 1: SFr. 80.--; 2: SFr. 120.;;

(Price 1: for IABSE members; 2: for non members; plus mailing costs)

The Reports present introductory articles, contributions, discussions and conclusions on the seven themes of IABSE 10th Congress in Tokyo, September 6 – 11, 1976:

- Design philosophy and decision processes for structures
  Les idées de base dans la conception des structures et le choix des solutions possibles
  Entwurfsgrundlagen und Entscheidungskriterien für Tragwerke
- Progress in structural optimization
  Progrès dans l'optimisation structurale
  Fortschritte in der Optimierung von Tragwerken
- Behaviour of building structures under fire effects
  Comportement des structures de bâtiments sous l'effet des incendies
  Tragverhalten von Bauwerken unter dem Einfluss des Feuers
- Special structures (steel, concrete, composite; comparative studies)
  Constructions spéciales (acier,béton,mixtes; études comparatives)
  Spezielle Bauwerke (Stahl, Beton, Verbund; Vergleichende Studien)
- Application of high-strength steels including weathering steels to tall and long-span structures
  Emploi des aciers à haute résistance et à protection naturelle pour les structures hautes ou à grande portée
  Anwendung hochfester Stähle, inklusive wetterfester Stähle, für hohe und weitgespannte Tragwerke
- Precast structures
  Constructions en béton préfabriqué
  Vorfabrizierte Bauwerke
- Progress on tall buildings
  Progress in the design of plate- and box-girders in steel
  Progress on bridge loading

  Progrès dans les maisons hautes
  Progrès dans le dimensionnement des poutres à âme pleine et en caisson
  Progrès dans la charge des ponts

  Fortschritte bei Hochhäusern
  Fortschritte in der Dimensionierung von stählernen Vollwand- und Kastenträgern
  Fortschritte bei der Erfassung der Belastung von Brücken

The report(s) may be ordered at IABSE Secretariat, ETH-Hönggerberg, CH – 8093 Zürich, Switzerland

Second International Colloquium on Stability of Steel Structures

Under the leadership of Working Commission II and its chairman, Professor Massonnet, the International Association for Bridge and Structural Engineering (IABSE) with the cooperation of the European Convention for Constructional Steelwork (ECCS), the Structural Stability Research Council (SSRC) and the Column Research Committee of Japan recently held three regional colloquia and will hold the fourth one in October 1977.

Tokyo, Sep 9, 1976

Twenty-two experts discussed in a one-day colloquium the following topics:
- Centrally compressed members
- Beam-columns
- Composite columns
- Lateral buckling of beams
- Plate girders
- Shells

Each topic was introduced by a Japanese expert; a discussion followed on views expressed in the Introductory Report published by ECCS.
A 197-pages volume was edited and may be ordered by the organizer, Prof. Ben Kato, University of Tokyo, Bunkyo-ku, Tokyo, Japan.

Liège, April 13 - 15, 1977

325 participants attended the sessions; very fruitful discussions arose from the papers presented for the various themes:
- The design concept
- Geometrical properties
- Centrally compressed members
- Built-up members
- Composite steel-concrete members
- Beams-lateral buckling
- Plate and box girders
- Beam-columns
- Interaction between local and general buckling
- Triangulated structures
- Frames
- Shells
- Special problems

The Introductory Report (383 pages) was published in July 1976 by ECCS. The Preliminary Report (667 pages), including 92 papers, was edited by the Liège Committee and sent to all participants two months in advance of the Colloquium. The Final Report will include the general reports on the communications presented in the Preliminary Report, as well as the Prepared and Free discussions. This 400 page volume will be published in October 1977 and will be sent to all participants.

All three reports may be ordered, either together or separately at the Organizing Committee, Institut du Génie Civil, Quai Banning 6, B – 4000 Liège.

Washington, May 17 - 19, 1977

50 papers from 14 different countries were presented at this colloquium, which consisted of the following sessions:
- Structural Dynamics
- Frames
- Tubes and Shells
- Plates and Girders
- Beams
- Columns and Beam-Columns

A 40-minute movie was shown on the dynamic response of an eleven-story concrete building subjected to simulated earthquake forces. This full scale test on a real building was carried out in St. Louis, Mo., under the direction of Prof. T.V. Galambos.

Several important questions facing designers in the USA emerged from the three-day meeting. Among these are:

1 How to account for the energy-absorption capacity and the limit of deformations in buildings subjected to severe earthquakes.

2 To use K or not to use K, the effective column length in frame design. It was announced that the use of K has been eliminated in German codes.

3 Should multiple column curves be adopted in the U.S. codes. It was announced this approach has now been adopted by the Dutch, Belgium, Norwegian, Italian and Czech specifications.

For further information and proceedings, please write to the Secretary, SSRC, Fritz Eng. Lab., Lehigh U., Bethlehem, Pa. 18015, USA

Budapest, Oct 19 - 21, 1977

The fourth regional colloquium on Stability of Steel Structures will consider the same themes as the first three meetings, with a particular attention for design concepts and national specifications in view to prepare a common Recommendation for Design of Steel Structures in COMECON countries.

For further information and proceedings, please write to Prof. Otto Halász, Technical University Budapest, H-1521 Budapest XI, Müegyetem rkp. 3.

Proceedings of the Regional Conference on Tall Buildings, Hong Kong

The second conference on tall buildings was held in Hong Kong on September 20 - 22, 1976. Following themes were dealt with, at the conference:
- Structural systems
- Wind effects
- Construction methods and techniques
- Foundations
- Fire and safety

Twenty papers are presented in the Proceedings which are now available:

Proceedings 1st Conference, 1973	US $ 11
Proceedings 2nd Conference, 1976	US $ 16
Proceedings 1st and 2nd Conference (special offer)	US $ 22

Orders with crossed cheques made payable to "Tall Buildings Conference, Hong Kong", should be sent to Mr. L. Ouyang, Hon. Treasurer, Tall Buildings Conference, Hong Kong, c/o Wong & Ouyang & Associates, Alliance Building, 3/F., 130-136 Connaught Road C., Hong Kong.

Bridges in Madhya Pradesh

The 37th Session of the Indian Roads Congress was held at Bhopal in December 1976. At this occasion, Public Works Department, Madhya Pradesh, brought out a publication entitled "Bridges in Madhya Pradesh". This book contains a review of developments in design and construction of bridges during last 20 years. Statistical data of old bridges and their performance studies and detailed information and outline designs of 50 important bridges are given in this book.

Some of the achievements in the construction of major bridges in Madhya Pradesh are listed below:
- The use of composite slabs with prestressed precast joists for the construction of submersible bridges up to 15 m span
- Submersible bridge design with 28 m span prestressed box girder
- Conversion of a submersible bridge into a high level bridge by lifting the decking by 5 m height
- Introduction of single circular piers with prestressed pier cap. Single circular RCC piers have also been adopted upto 30 m height.

This publication may be ordered at the Public Works Department, Madhya Pradesh, Bhopal 462 003, India. (Price Rs 40.-)

The Bridge & Structural Engineer
Quarterly Journal of the Indian National Group of IABSE

In addition to editorial articles and news on the activities of IABSE and its Indian National Group, the four issues of the 1976 "Quarterly" present following contributions:

Limit Load Analysis of Two Pinned Reinforced Concrete Arches
Dr. Bhagabat Jena

Flexural Strength of Steel-Concrete Continuous Composite Beams
Dr. S.K. Chattopadhyay and Dr. S.K. Mallick

Experimental Determination of Stiffnesses of Space Framed Structures for Lateral Vibration Response
A.K. Basak & Y.P. Gupta

Limit Design of Two Hinged Circular Arches Carrying Uniformly Distributed Load
Dr. S.P. Gupta & Dr. M.K. Aggarwal

Stability of Reinforced Concrete Shell Roofs
Dr. R. Radhakrishnan

Analysis of Wide Flange Composite Box Girder Bridges
Dr. S.V. Narasimham

Influence Lines for a Three Girder Interconnected Bridge Decks
S.K. Mitra and Dr. P.K. Das

Analysis and Design of Slender Exposed R.C. Piles
Dr. V.K. Raina & M.A. Easwaran

Dynamic Response of Railway Bridges
Dr. N. Ananthanarayana

Rotational Stiffness Matrix and Analysis of Core Walls
A.K. Nagpal & Dr. A.K. Basu

Damages & Failures of Bridges due to High Stream Velocities
B.G. Naik & C.V. Kand

Load Tests on Two Bridges
S.S. Patwardhan

The quarterlies may be ordered at
The Indian National Group
Jamnagar House, Shahjahan Road, New Delhi-110011, India