Commission X

Structural Performance of Welded Joints — Fracture Avoidance

C-X Meeting, IIW on-line Annual Assembly

– Agenda –

20 (Monday) July, 2020

Time: CEST

13:00 - 13:05 **Welcome Address** (Prof. F. Minami, C-X Chair, Osaka University, JAPAN)
Approval of Agenda: X-1974-2020
13:05 - 13:20 **Recent Activities of C-X: X-1975-2020** (Prof. F. Minami)

Session 1: Modelling and Analysis of Fracture

13:20 - 13:40 **X-1967-2020 (IIW2020_CX_murakawa_hidekazu_02)**
- **Numerical study on brittleness and ductility of steels**
  (Hidekazu Murakawa, JWRI, Osaka University, JAPAN)

13:40 - 14:00 **X-1966-2020 (IIW2020_CX_murakawa_hidekazu_01)**
- **Crack growth analysis for welded structures using characteristic tensor**
  (Hidekazu Murakawa, JWRI, Osaka University, JAPAN)

14:00 - 14:20 **X-1980-2020 (IIW2020_CX_zhao_lei_01)**
- **A modified non-linear energy density exhaustion method for creep-fatigue life prediction**
  (Lei Zhao, Kai Song, Lianyong Xu, Tianjin University, P.R. CHINA)

14:20 - 14:40 **Break**

Commission X

Structural Performance of Welded Joints — Fracture Avoidance

C-X Meeting, IIW on-line Annual Assembly

– Agenda –

20 (Monday) July, 2020

Time: CEST

Session 2: Testing and Evaluation of Welds

14:40 - 15:00 X-1976-2020 (IIW2020_CX_chanh_constance_01)

- **Experimental determination of 3D crack propagation scenario in resistance spot welds of martensitic stainless steel**

  (C. Chanh, A. F. Gourgues-Lorenzon, MINES ParisTech, PSL University, FRANCE, A. Gourment, B. Petit, APERAM Research Center, FRANCE)

15:00 - 15:20 X-1977-2020 (IIW2020_CX_jousset_nicolas_01)

- **Linking thermal history and microstructure of reheated zones in multipass high strength steel weld metal**

  (N. Jousset, A. F. Gourgues-Lorenzon, MINES ParisTech, PSL University, FRANCE, M. Gaume, F. Bridier, Naval Geoup, FRANCE)

15:20 - 15:40 X-1978-2020 (IIW2020_CX_ozawa_takumi_01)

- **Typical LC Effect on Crack Front Straightness and Fracture Toughness**

  (Takumi Ozawa, National Maritime Research Institute, JAPAN, Hiroki Kosuge, Tomoya Kawabata, The University of Tokyo, JAPAN, Yoshiki Mikami, JWRI, Oska University, JAPAN)

15:40 End of the Day

Commission X

Structural Performance of Welded Joints — Fracture Avoidance

C-X Meeting, IIW on-line Annual Assembly

– Agenda –

21 (Tuesday) July, 2020

Time: CEST

Session 3: Constraint Based Assessment of Fracture

13:00 - 13:20 X-1968-2020 (IIW2020_CX_ohata_mitsuru_01)

- **Plastic constraint based assessment of ductile fracture in consideration of material properties**

(M. Ohata, H. Shoji, F. Minami, Osaka University, JAPAN)

13:20 - 13:40 X-1979-2020 (IIW2020_CX_xu_lianyong_01)

- **Enhanced C*-Q* two-parameter approaches for predicting creep crack initiation times**

(Lianyong Xu, Tianjin University, P.R. CHINA)

Session 4: Advanced Material Processing

13:40 - 14:00 X-1981-2020 (IIW2020_CX_han_yongdian_01)

- **Selective laser melting of low-content graphene nanoplatelets reinforced 316L austenitic stainless steel matrix: strength enhancement without affecting ductility**

(Y. Han, Y. Zhang, H. Jing, L. Xu, L. Zhao, Tianjin University, P.R. CHINA)

Session 5: Fracture Avoidance in Structures

14:00 - 14:30 X-1965r-2020 (IIW2020_CX_hobbacher_adolf_01)

- **Provisions for avoiding brittle fracture in steels used in Australasia**

(Adolf F. Hobbacher, Jade University of Applied Science, GERMANY,
Michail Karpenko, Heavy Engineering Research Association (HERA), NEW ZEALND)

14:30 - 14:40 Crosing Remarks