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FCF Phase A (rigid, straight & skew)

For the rigid boundary work 19 series of experiments were undertaken, 11 with floodplains, two with isolated floodplains, and six with skewed floodplains, as shown in the table below. For a given series, eight experiments were undertaken at eight different overbank flow depths, ranging from (H-h)/H = 0.05 (0.05) to 0.5, where (H-h) = floodplain depth and h = bankfull depth. By setting the same flow depths in each series, it was possible to compare overbank flow results at a given depth for various types of geometry or floodplain roughness.

Some inbank flow experiments were also undertaken. For all tests, the bed slope was moulded to 1.0270 x 10-3 , and the semi-base width of the main channel, b, was kept constant at 0.75 m, with h = 0.150 m, thus giving an aspect ratio of 10 (= 2b/h) for the main channel at the bankfull stage. Further details on the notation and programme are shown in **Notes on FCF data (/research/activity/civil-engineering/short-term/floods/flowdata/fcf-data/overview-data-fcf.aspx)** .

Open all sections

Table

Series No.	Type of experiment	Width parameters	Main channel side slope, s	Floodplain type	Roughness
01	Straight	B/b = 6.67	1.0	Symmetric	Smooth
02	Straight	B/b = 4.20	1.0	Symmetric	Smooth
03	Straight	B/b = 2.20	1.0	Symmetric	Smooth
04	Straight	B/b =1.20	1.0	Trapezoidal	Smooth
05	Straight	B/b = 2.50	1.0	(R Main)	Smooth
06	Straight	B/b = 4.20	1.0	Asymmetric	Smooth
07	Straight	B/b = 4.20	1.0	Symmetric	Rough
08	Straight	b fp/b = 3.0	0	Symmetric	Smooth
09	Straight	b fp/b = 3.0	0	Symmetric	Rough
10	Straight	b fp/b = 3.0	2.0	Symmetric	Smooth
11	Straight	b fp/b = 3.0	2.0	Symmetric	Rough
12	Straight	Isolated fp	1.0	-	-
13	Straight	Isolated fp	1.0	-	-
14	Skew	B/b = 3.7	1.0	θ = 5°	Smooth
15	Skew	B/b = 3.7	1.0	θ = 9°	Smooth
16	Skew	B/b = 3.7	0	θ = 5°	Smooth
17	Skew	B/b = 3.7	0	θ = 2°	Smooth
18	Skew	B/b = 3.7	2.0	θ = 5°	Smooth
19	Skew	B/b = 3.7	1.0	θ = 5°	Rough

Data files

Details on the notation and programme are given in Notes on FCF data. Data files are in text format, which are regrouped and listed in the following manner. All files need to be unzipped using WINZIP and then opened using WordPad.

Summary files contain the key results in a convenient one page format and the Results files contain all the experimental results, before and after adjustment. Adjustments were made to all individual velocity and boundary shear stress data in order that the integrated values matched the overall values obtained independently by other means. Errors between integrated values and overall measured values were generally < 3% for discharge and < 6% for boundary shear. Water surface slopes were always controlled to within 2% of the bed slope. All errors and adjustments are given on each Summary and Results file. The lateral distributions of depth-averaged velocity and boundary shear stress are contained in the Boundary Shear and Velocity Files. The 'Experimental data' files contain key raw measured data, without adjustment. Some turbulence results are given in the turbulence files.

Experimental data file links (FCF Phase A):

Summary files (overview of results)

- **inbank flow (http://www.eee.bham.ac.uk/flowdata/FCFA/suminbank.zip)**
- overbank flow
  - **series 01 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum01.zip)** , **series 02 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum02.zip)** , **series 03 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum03.zip)** , **series 04 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum04.zip)** , **series 05 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum05.zip)** , **series 06 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum06.zip)**
  - **series 07 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum07.zip)** , **series 08 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum08.zip)** , **series 10 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum10.zip)** , **series 11 (http://www.eee.bham.ac.uk/flowdata/FCFA/sum11.zip)**

Experimental data

- **inbank flow (http://www.eee.bham.ac.uk/flowdata/FCFA/expin.zip)**
- overbank flow
  - **series 01 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp01.zip)** , **series 02 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp02.zip)** , **series 03 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp03.zip)** , **series 0 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp04.zip)** 4, **series 05 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp05.zip)** , **series 06 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp06.zip)**
  - **series 07 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp07.zip)** , **series 08 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp08.zip)** , **series 10 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp10.zip)** , **series 11 (http://www.eee.bham.ac.uk/flowdata/FCFA/exp11.zip)**

Boundary shear and velocity files

- **inbank flow (http://www.eee.bham.ac.uk/flowdata/FCFA/bvin.zip)**
- overbank flow
  - **series 01 (http://www.eee.bham.ac.uk/flowdata/FCFA/res01.zip)** , **series 02 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv02.zip)** , **series 03 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv03.zip)** ,

series 04 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv04.zip) , series 05 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv05.zip) , series 06 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv06.zip)

- series 07 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv07.zip) , series 08 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv08.zip) , series 10 (http://www.eee.bham.ac.uk/flowdata/FCFA/bv10.zip) , series 11 (http://www.eee.bham.ac.uk/flowdata/FCFA/res11.zip)

Results files (full details, with summary also)

- **inbank flow (http://www.eee.bham.ac.uk/flowdata/FCFA/resin.zip)**
- overbank flow
  - series 01 (http://www.eee.bham.ac.uk/flowdata/FCFA/res01.zip) , series 02 (http://www.eee.bham.ac.uk/flowdata/FCFA/res02.zip) , series 03 (http://www.eee.bham.ac.uk/flowdata/FCFA/res03.zip) , series 04 (http://www.eee.bham.ac.uk/flowdata/FCFA/res04.zip) , series 05 (http://www.eee.bham.ac.uk/flowdata/FCFA/res05.zip) , series 06 (http://www.eee.bham.ac.uk/flowdata/FCFA/res06.zip)
  - series 07 (http://www.eee.bham.ac.uk/flowdata/FCFA/res07.zip) , series 08 (http://www.eee.bham.ac.uk/flowdata/FCFA/res08.zip) , series 10 (http://www.eee.bham.ac.uk/flowdata/FCFA/res10.zip) , series 11 (http://www.eee.bham.ac.uk/flowdata/FCFA/res11.zip)

Turbulence files

- inbank flow
  - test 04 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur04in.zip) , test 08 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur08in.zip) , test 10 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur10in.zip)
- overbank flow
  - series 0202 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0202.zip) , series 0203 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0203.zip) , series 0204, (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0204.zip) series 0205 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0205.zip)
  - series 04010 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur04010.zip) , series 04015 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur04015.zip) , series 0803 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0803.zip) , series 0805 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur0805.zip)
  - series 1003 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur1003.zip) , series 1005 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur1005.zip) , series 1105 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur1105.zip) , series 2005 (http://www.eee.bham.ac.uk/flowdata/FCFA/tur2005.zip)

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