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Numerical simulations of concrete flow: A benchmark comparison - DTU Orbit (08/11/2017)

Numerical simulations of concrete flow: A benchmark comparison

First, we define in this paper two benchmark flows readily usable by anyone calibrating a numerical tool for concrete flow prediction. Such benchmark flows shall allow anyone to check the validity of their computational tools no matter the numerical methods and parameters they choose. Second, we compare numerical predictions of the concrete sample final shape for these two benchmark flows obtained by various research teams around the world using various numerical techniques. Our results show that all numerical techniques compared here give very similar results suggesting that numerical simulations of concrete filling ability when neglecting any potential components segregation have reached a technology readiness level bringing them closer to industrial practice.

General information

State: Published
Organisations: Department of Mechanical Engineering, Manufacturing Engineering, Universite Paris-Est, Swedish Cement and Concrete Research Institute, Institut für Angewandte Bauforschung Weimar, Technische Universität Dresden, Heidelberg Cement Technology Center GmbH, Danish Technological Institute, Federal Institute for Materials Research and Testing, Politecnico di Milano
Authors: Roussel, N. (Ekstern), Gram, A. (Ekstern), Cremonesi, M. (Ekstern), Ferrara, L. (Ekstern), Krenzer, K. (Ekstern), Mechtcherine, V. (Ekstern), Shyshko, S. (Ekstern), Skocec, J. (Ekstern), Spangenberg, J. (Intern), Svec, O. (Intern), Thrane, L. N. (Ekstern), Vasilic, K. (Ekstern)
Pages: 265-271
Publication date: 2016
Main Research Area: Technical/natural sciences

Publication information

Journal: Cement and Concrete Research
Volume: 79
ISSN (Print): 0008-8846
Ratings:
BFI (2017): BFI-level 2
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 5.15 SJR 3.46 SNIP 3.166
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 3.69 SNIP 3.227 CiteScore 4.54
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 4.201 SNIP 3.664 CiteScore 4.44
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 4.335 SNIP 3.993 CiteScore 4.54
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 3.622 SNIP 3.866 CiteScore 3.92
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 2.171 SNIP 3.423 CiteScore 3.77
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 2.613 SNIP 2.796
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 2.369 SNIP 2.596
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.474 SNIP 1.959
Web of Science (2008): Indexed yes

Scopus rating (2007): SJR 1.654 SNIP 1.851
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.168 SNIP 1.916
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.908 SNIP 1.679
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 0.976 SNIP 1.695
Scopus rating (2003): SJR 0.666 SNIP 1.69
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 0.735 SNIP 1.308
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 0.739 SNIP 1.116
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.623 SNIP 1.41
Scopus rating (1999): SJR 0.601 SNIP 1.471
Original language: English
Casting, Fresh Concrete (A), Modeling (E), Rheology (A), Workability (A)
DOIs:
10.1016/j.cemconres.2015.09.022
Source: FindIt
Source-ID: 2288042926
Publication: Research - peer-review › Journal article – Annual report year: 2016