

2nd European sCO₂ Conference 2018

Location:
Kraftwerksschule e.V. (KWS),
Deilbachtal 199,
45257 Essen, Germany

Date: 30-31 August 2018

Agenda

Thursday 30th August 2018	
11:00 – 12:00	Welcome reception including lunch (KWS building)
12:00 – 12:20	Welcome note by Dieter Brillert and group photo
12:20 – 12:50	Keynote speech by Albannie Cagnac, Electricité de France (EdF)
13:00 – 14:30	sCO ₂ -cycles and their applications (session 1)
	Compressor / Turbine / Generator (session 2)
14:30 – 15:00	Coffee break
15:00 – 16:30	sCO ₂ -cycles and their applications (session 3)
	Compressor / Turbine / Generator (session 4)
16:30 – 17:30	sCO ₂ -HeRo lab tour (glass model)
19:00 – 22:30	Conference Dinner at “Brauerei Dampfe”

Friday 31st August 2018	
09:00 – 10:00	sCO ₂ -cycles and their applications (session 5)
	Heat transfer and heat exchanger (session 6)
10:00 – 10:30	Coffee Break
10:30 – 12:00	sCO ₂ -cycles and their applications (session 7)
	Heat transfer and heat exchanger (session 8)
12:00 – 13:00	Lunch incl. some take away

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Time	Title	Author	DOI
12:00 – 12:20	Welcome note by Dieter Brillert and group photo		
12:20 – 12:50	Keynote speech	Albannie Cagnac, Electricité de France (EdF)	-
sCO₂-cycles and their applications (session 1)			
13:00 – 13:30	First Operational Experience From The Supercritical CO ₂ Experimental Loop	Vojacek, Ales; Frybort, Otakar; Hacks, Alexander	10.17185/dupublico/46075
13.30 – 14:00	Economic Forecasting For Solar-Energy Assisted Supercritical CO ₂ Brayton Cycle	Noaman, Mohamed B.; Morosuk, Tatiana; Tsatsaronis, George	10.17185/dupublico/46100
14:00 – 14:30	Design, Control and Start-up of the sCO ₂ Test Facility Scarlett	Flaig, Wolfgang; Mertz, Rainer; Starflinger, Jörg	10.17185/dupublico/46081
Compressor / Turbine / Generator (session 2)			
13:00 – 13:30	Design Of A Single-Shaft Compressor, Generator, Turbine For Small-Scale Supercritical CO ₂ Systems For Waste Heat To Power Conversion Applications	De Miol, Maxence; Bianchi, Giuseppe; Henry, Gabriel; Holaind, Norman; Tassou, Savvas A.; Leroux, Arthur	10.17185/dupublico/46086
13.30 – 14:00	Experimental Investigation of the sCO ₂ -HeRo Compressor	Hacks, Alexander Johannes; Vojacek, Ales; Dohmen, Hans Josef; Benra, Friedrich-Karl; Brillert, Dieter	10.17185/dupublico/46088
14:00 – 14:30	Scaling Considerations for the Application of the sCO ₂ -HeRo System in Nuclear Power Plants	Hacks, Alexander Johannes; Dohmen, Hans Josef; Benra, Friedrich-Karl; Brillert, Dieter	10.17185/dupublico/46089
14:30 – 15:00	Coffee break		

Thursday 30th August 2018

Time	Title	Author	DOI
sCO₂-cycles and their applications (session 3)			
15:00 – 15:30	Evaluation of sCO ₂ power cycles for direct and waste heat applications	Glos, Stefan; Schlehuber, Dominic; Wechsung, Michael; Wagner, Rebecca; Heidenhof, Andre	10.17185/dupublico/46082
15:30 – 16:00	Supercritical CO ₂ Heat Removal System, - Integration into European PWR Fleet	Hájek, Petr; Vojacek, Ales; Hakl, Vaclav	10.17185/dupublico/46083
16:00 – 16:30	Concept And Preliminary Design Of A 600 °C+ sCO ₂ Test Facility	Gampe, Uwe; Henoch, Jasmin; Gerbeth, Gunter; Hampel, Uwe; Hannemann, Frank; Rath, Sebastian	10.17185/dupublico/46084
Compressor / Turbine / Generator (session 4)			
15:00 – 15:30	Comparison of CO ₂ Critical Flow Model Based on Henry-Fauske Model with Two-phase Flow	Kim, Min Seok; Oh, Bong Seong; Jung, Hwa-Young; Bae, Seong Jun; Lee, Jeong Ik	10.17185/dupublico/46092
15:30 – 16:00	Start Up Modeling of S-CO ₂ Cycles Using Beta Line Method Of Turbomachinery Performance Map	Oh, Bong-Seong; Kim, Seong Gu; Cho, Seong Kuk; Bae, Seong Jun; Lee, Jeong Ik	10.17185/dupublico/46096
16:00 – 16:30	Design and dynamic simulation of a 200 kwth laboratory sCO ₂ -test rig	Gregor, Klemencic; Werner, Andreas; Leibinger, Helmut; Steinschaden, Norbert; Nowack, Tim; Flegkas, Stylianos; Haider, Markus; Fellner, Thomas; Bergthaller, Thomas	10.17185/dupublico/46099
16:30 – 17:30	sCO ₂ -HeRo lab tour (glass model)		

Friday 31st August 2018			
Time	Title	Author	DOI
sCO₂-cycles and their applications (session 5)			
09:00 – 09:30	Effects of Cold Temperature and Main Compressor Intercooling on Recuperator and Recompression Cycle Performance	Weiland, Nathan T.; White, Charles W.; O'Connell, Andrew C	10.17185/dupublico/46085
09:30 – 10:00	Sco2 Closed Brayton Cycle For Coal-Fired Power Plant: An Economic Analysis Of A Previous Technical Optimization	Mecheri, Mounir	10.17185/dupublico/46091
Heat transfer and heat exchanger (session 6)			
09:00 – 09:30	Experimental Investigation On Heat Transfer Between Condensing Steam And sCO ₂ In Compact Heat Exchangers	Straetz, Marcel Ralf; Mertz, Rainer; Starflinger, Jörg	10.17185/dupublico/46078
09:30 – 10:00	Flow and Heat Transfer Characterization for Supercritical CO ₂ During Heat Rejection	Pandey, Sandeep; Laurien, Eckart; Chu, Xu	10.17185/dupublico/46079
10:00 – 10:30	Coffee break		
sCO₂-cycles and their applications (session 7)			
10:30 – 11:00	A Novel Approach To Accurately Model Heat Transfer To Supercritical Fluids	Otero-Rodriguez, Gustavo; Patel, Ashish; Pecnik, Rene	10.17185/dupublico/46095
11:00 – 11:30	Impact of CSP Design Parameters on sCO ₂ -based Solar Tower Plants	Buck, Reiner; Giuliano, Stefano	10.17185/dupublico/46098
11:30 – 12:00	Feasibility Study Of Supercritical Co ₂ Rankine Cycle For Waste Heat Recovery	Shah, Amit; Trivedi, Yagneshkumar; Dave, Ashish Kumar; Chauhan, Haresh; Patel, Kishan; Dave, Punitkumar; Mehta, Vishal	cancelled participation
Heat transfer and heat exchanger (session 8)			

Friday 31st August 2018

Time	Title	Author	DOI
10:30 – 11:00	Preliminary Experimental Study Of CO ₂ Based Mixture Supercritical Power Cycle	Baik, Seungjoon; Lee, Jeong Ik	10.17185/dupublico/46093
11:00 – 11:30	Investigating the heat transfer characteristics of supercritical HFC-125 in low temperature organic Rankine cycle	Lazova, Marija; De Paepe, Michel	10.17185/dupublico/46097
11:30 – 12:00	-		