WSCC 2017: the World Speed Computer Chess Championship

Article

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WSCC 2017: The World Speed Computer Chess Championship

Jan Krabbenbos, Jaap van den Herik and Guy Haworth[1]
Amersfoort, The Netherlands, Leiden, The Netherlands and Reading, UK

WSCC 2017 took place during the evening of Wednesday, July 5th in the Turing Room of Leiden University's Computer Science department. Three hours of lightning hand-speed and artificial intelligence resulted in twenty-two games, still played at a superhuman level despite the blitz tempo of 5′+5″/move.[2] The field of five as in Table 1 included a subset of the WCSC 2017 and all the WCCC 2017 players (Krabbenbos et al, 2017a/b). The all-play-all format required five rounds, each of two matches of two games – the players taking White and Black once if not enjoying the bye.

Table 1
The WSCC 2017 competitors

id	Program	Author(s)	State	Operator
C	CHIRON	Ubaldo Andrea Farina	IT	U.A.F.
J	JONNY	Johannes Zwanzger	DE	J.Z.
K	KOMODO	Don Dailey, Larry Kaufman & Mark Lefler	US	Erdogen Günes
S	SHREDDER	Stefan Meyer-Kahlen	DE	S.M-K.
Z	ZIGGURAT	David Norris	US	D.N.

The games, with some interesting annotations including those by the engines themselves, are available (Krabbenbos et al., 2017c) and are listed in Table 2 with the results in Tables 3-4. KOMODO, JONNY and SHREDDER drew all their games against each other. JONNY beat SHREDDER 1½-½ in the play-off for the bronze. CHIRON and ZIGGURAT certainly played better than their results show.

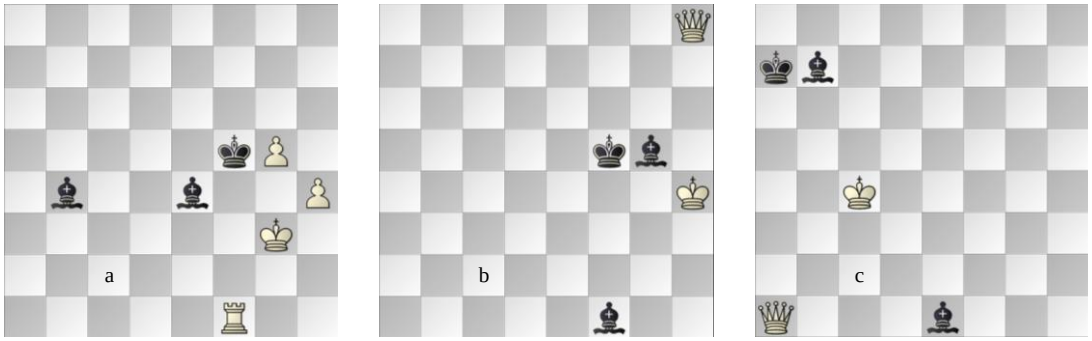

Fig. 1. JONNY – SHREDDER positions a) 64b, b) 70w (*dtc* = 51m) and c) 113b (*ply-count* = 87; *dtc* = 5m).

[1] University of Reading; g.haworth@reading.ac.uk

[2] Assume a 60-move game, 20′ at Blitz and 4 hours at Classic tempo. Lefler (2017) suggests that each extra ply of search approximately doubles search-time and increases ELO with diminishing effect. Strangmüller's (2017) results suggest that decreasing the time-budget from 'Classical' to 'Blitz' only results in a penalty of some 140 ELO.

The first JONNY – SHREDDER play-off game, #21, is particularly worthy of mention, see Figure 1. The 7-man KRPPKBB endgame, Figure 1a, was a theoretical draw (Lomonosov team, 2017) but SHREDDER missed the essential 64. … Ke6/Kg6 defence, playing **64. … Ke5** instead. The 'mate in 66' moved naturally to KQKBB at position 70w with the nearest capture a tantalising 51 moves away. SHREDDER could in fact have been rescued by the FIDE (2014) 50-move-rule 9.3 with its king in check and a bishop helplessly en prise. The drama continued as neither side minimaxed depth with de Man's (2013) tables as the situation demanded. JONNY, minimising depth to mate, lengthened the phase by eight moves but SHREDDER was already shortening the phase while using only de Man's WDL tables (Meyer-Kahlen, 2017). Six minutes later, a still concerned Johannes saw JONNY reaching for the safe harbour of a KQKB win at position 113b with just one move to spare. This game is another input to the debate about the relevance of the 50-move rule to computer chess.

Table 2
The games of WSCC 2017.[3]

#	Rnd	Wh.	Bl.	#m	Res.	ECO	Opening	Fgen	7m	6m	5m
01	1a	J	K	52	½-½	D46	QGD, Semi-Slav Defence, 6. Bd3	47b	—	—	—
02	1a	S	Z	60	1-0	E15	Queen's Indian, 4. g3	33w	49b	50b	53w
03	1b	K	J	59	½-½	C50	King's Pawn Game	—	—	—	—
04	1b	Z	S	53	0-1	D43	QGD, Semi-Slav Defence	—	—	—	—
05	2a	C	S	57	0-1	D12	QGD, Slav Defence, 4. e3 Bf5	—	—	—	—
06	2a	Z	K	40	0-1	D94	Grűnfeld, 5. e3	—	—	—	—
07	2b	S	C	61	½-½	D37	QGD, 4. Nf3	35w	—	—	—
08	2b	K	Z	17	1-0	E61	King's Indian Defence, 3. Nc3	—	—	—	—
09	3a	J	Z	47	1-0	E15	Queen's Indian, 4. g3	—	—	—	—
10	3a	K	C	57	1-0	D05	Queen's Pawn Game, Zukertort Var.	—	—	—	—
11	3b	Z	J	47	0-1	D43	QGD, Semi-Slav Defence	—	—	—	—
12	3b	C	K	64	0-1	A50	Queen's Pawn Game	—	—	—	—
13	4a	C	J	46	0-1	D12	QGD, Slav Defence, 4. e3 Bf5	—	—	—	—
14	4a	S	K	106	½-½	D43	QGD, Semi-Slav Defence	96b	99b	100w	102b
15	4b	J	C	57	½-½	E00	Queen's Pawn Game	50w	—	—	—
16	4b	K	S	58	½-½	B48	Sicilian, Taimanov Variation	35w	43w	46w	52w
17	5a	J	S	43	½-½	D47	QGD, Semi-Slav Defence, 7. Bc4	36w	—	—	—
18	5a	Z	C	52	0-1	D17	QGD, Slav Defence, Czech Defence	35w	47w	—	—
19	5b	S	J	48	½-½	D43	QGD, Semi-Slav Defence	—	—	—	—
20	5b	C	Z	39	1-0	B90	Sicilian, Najdorf	—	—	—	—
21	Pa	J	S	122	1-0	D47	QGD, Semi-Slav Defence, 7. Bc4	114b	59w	68w	70w
22	Pb	S	J	54	½-½	D43	QGD, Semi-Slav Defence	50w	50b	—	—

Table 3
WSCC 2017 results and progress, round by round

id	Program	r1	r2	r3	r4	r5	Play off	Pos.
K	KOMODO	J b½ w½, 1	Z b1 w1, 3	C w1 b1, 5	S b½ w½, 6	bye, 6	—	1
J	JONNY	K w½ b½, 1	bye, 1	Z w1 b1, 3	C b1 w½, 4½	S w½ b½, 5½	S w1 b½	2
S	SHREDDER	Z w1 b1, 2	C b1 w½, 3½	bye, 3½	K w½ b½, 4½	J b½ w½, 5½	J b0 w½	3
C	CHIRON	bye, 0	S w0 b½, ½	K b0 w0, ½	J w0 b½, 1	Z b1 w1, 3	—	4
Z	ZIGGURAT	S b0 w0, 0	K w0 b0, 0	J b0 w0, 0	bye, 0	C w0 b0, 0	—	5

KOMODO edged first place by the smallest margin with two hard fought wins against CHIRON in the third round. In the adjacent rounds, first SHREDDER then JONNY had started with encouraging wins even though Black, only to draw when having the notional advantage of the first move as White.

[3] *Fgen* notes when the game first has one piece at most per side, allowing FINALGEN (Romero, 2017) to analyse.

Congratulations to all the participants, particularly to the podium - World Speed Computer Chess Champion KOMODO, JONNY, and SHREDDER. The contest was close, absorbing and keenly fought with many extended games of grandmaster quality.

Table 4
The WSCC 2017 cross-table

id	Program	K	J	S	C	Z	W	D	L	Score
K	KOMODO		½ ½	½ ½	1 1	1 1	4	4	0	6
J	JONNY	½ ½		½ ½	1 ½	1 1	3	5	0	5½
S	SHREDDER	½ ½	½ ½		1 ½	1 1	3	5	0	5½
C	CHIRON	0 0	0 ½	0 ½		1 1	2	2	4	3
Z	ZIGGURAT	0 0	0 0	0 0	0 0		0	0	8	0

Acknowledgements

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REFERENCES

de Man, R. (2013). https://tinyurl.com/icga013. Site providing 5- and 6-man DTZ_{50}'' EGTs.

FIDE (2014). https://tinyurl.com/icga015. The FIDE laws of chess as of 2014-07-01.

Krabbenbos, J., van den Herik, H.J. and Haworth, G.M^{c}C. (2017a). WCCC 2017: the 23rd World Computer Chess Championship. http://centaur.reading.ac.uk/70937/. *ICGA Journal*, 39(3-4), 210-221. doi:10.3233/ICG-170032.

Krabbenbos, J., van den Herik, H.J. and Haworth, G.M^{c}C. (2017b). WCSC 2017: the 7th World Chess Software Championship. http://centaur.reading.ac.uk/70938/. *ICGA Journal*, 40(1), 32-39. doi:10.3233/ICG-170033.

Krabbenbos, J., van den Herik, H.J. and Haworth, G.M^{c}C. (2017c). WSCC 2017: the 23rd World Speed Computer Chess Championship. http://centaur.reading.ac.uk/70939/. *ICGA Journal*, 40(1), 40-42. doi:10.3233/ICG-180034.

Lefler, M. (2017) Private correspondence re experiments on the ELO-effect of time and threads.

Lomonosov team (2017) https://tinyurl.com/icga008. 7-man DTM EGT query service.

Meyer-Kahlen, S. (2017). Private communication.

Romero, P.P. (2017. https://tinyurl.com/icga013. FINALGEN information and download.

Strangmüller, A. (2017). http://fastgm.de/time-control4.html. KOMODO time-doubling, self-play experiment.