57 reported interval updates — includes 2 pending acceptance

18 constructive lower bounds + 37 upper-bound updates; 2 further upper updates pending.

Rows [41,12] and [42,12]: supplementary review passed; source project final acceptance pending.

Of the source figure's 15 exact values, 13 are accepted in the package; 2 remain pending.

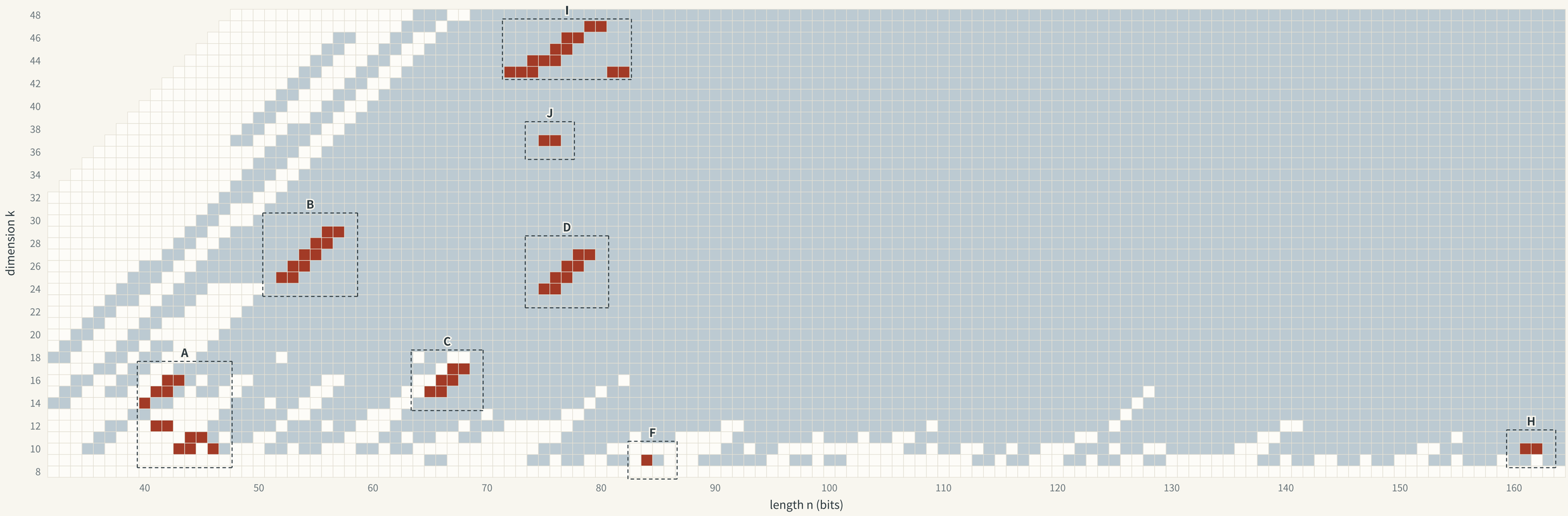
Status caption: MathRSI v8, 2026-11-23. Original author figure below; archived original unchanged.

Binary linear codes: 57 intervals advanced by MathRSI

Horizontal axis: length n; vertical axis: dimension k. Cells show the known value or interval of the optimal minimum distance $d_2(n,k)$; brown-red cells show "table interval → MathRSI result".

Warm white: closed Blue-grey: open Brown-red: advanced by MathRSI (57 cells; the corner mark ①–⑤ gives the source, see the table at lower left)

Overview: n 32–164, k 8–48 (dashed boxes are enlarged below)



A • n 40–47, k 9–17

k \ n	40	41	42	43	44	45	46	47
17	11–12	12	12	12–13	12–14	12–14	13–14	14–15
16	12	12	12–13 ② → 12	12–14 ③ → 12–13	13–14	14	14–15	15–16
15	12	12–13 ③ → 12	12–14 ③ → 12–13	13–14	14	14–15	15–16	16
14	12–13 ③ → 12	12–14	13–14	14	15	16	16	16
13	13–14	14	14	15	16	16	16	16–17
12	14	14–15 ⑤ → 14	15–16 ⑤ → 15	16	16	16	16–17	16–18
11	15	16	16	16	16–17 ① → 16	16–18 ① → 16–17	17–18	18
10	16	16	16	16–17 ① → 16	17–18 ① → 17	18	18–19 ③ → 18	19–20
9	16	16	17	18	18	19	20	20

B • n 51–58, k 24–30

k \ n	51	52	53	54	55	56	57	58
30	8–10	8–10	9–11	10–12	10–12	10–12	11–13	12–14
29	8–10	9–11	10–12	10–12	10–12	11–13 ③ → 11–12	12–14 ③ → 12–13	12–14
28	9–11	10–12	10–12	10–12	11–13 ③ → 11–12	12–14 ③ → 12–13	12–14	12–14
27	10–12	10–12	10–12	11–13 ③ → 11–12	12–14 ③ → 12–13	12–14	12–14	12–15
26	10–12	10–12	11–13 ③ → 11–12	12–14 ③ → 12–13	12–14	12–14	12–15	12–16
25	11–12	12–13 ③ → 12	12–14 ③ → 12–13	12–14	12–14	12–15	12–16	13–16
24	12–13	12–14	12–14	12–14	12–15	13–16	14–16	14–16

D • n 74–80, k 23–28

k \ n	74	75	76	77	78	79	80
28	18–22	19–22	20–23	20–24	20–24	20–24	20–25
27	20–23	20–24	20–24	20–24	20–25 ③ → 20–24	20–26 ③ → 20–25	21–26
26	20–24	20–24	20–24	20–25 ③ → 20–24	20–26 ③ → 20–25	21–26	22–26
25	20–24	20–24	20–25 ③ → 20–24	21–26 ③ → 21–25	22–26	22–26	23–26
24	20–24	20–25 ③ → 20–24	21–26 ③ → 21–25	22–26	22–26	23–27	24–28
23	21–25	22–26	22–26	23–26	24–27	24–28	24–28

I • n 72–82, k 43–47

k \ n	72	73	74	75	76	77	78	79	80	81	82
47	9–11	10–12	10–12	10–12	10–13	10–14	10–14	10–14 ④ → 11–14	11–15 ④ → 12–15	12–16	12–16
46	10–12	10–12	10–12	10–13	10–14	† 10–14 ④ → 11–14	11–14 ④ → 12–14	12–15	12–16	12–16	12–16
45	10–12	10–13	10–14	10–14	10–14 ④ → 11–14	11–15 ④ → 12–15	12–16	12–16	12–16	12–16	12–17
44	10–13	10–14	10–14 ④ → 11–14	† 10–14 ④ → 12–14	11–15 ④ → 12–15	12–16	12–16	12–16	12–16	12–17	12–18
43	10–14 ④ → 11–14	† 10–14 ④ → 12–14	11–14 ④ → 12–14	12–15	12–16	12–16	12–16	12–16	12–17	12–18 ④ → 13–18	† 13–18 ④ → 14–18

C • n 64–69, k 14–18

k \ n	64	65	66	67	68	69
18	22	22–23	23–24	24	24	24–25
17	22–24	23–24	24	24–25 ③ → 24	24–26 ③ → 24–25	24–26
16	24	24	24–25 ③ → 24	24–26 ③ → 24–25	24–26	24–26
15	24	24–25 ③ → 24	24–26 ③ → 24–25	24–26	24–26	25–27
14	24–25	24–26	24–26	24–27	25–28	26–28

J • n 74–77, k 36–38

k \ n	74	75	76	77
38	14–17	14–18	14–18	15–18
37	14–18	14–18 ④ → 15–18	† 15–18 ④ → 16–18	16–19
36	16–18	16–18	16–19	16–20

F • n 83–86, k 8–10

k \ n	83	84	85	86
10	37	38	38	39
9	38	38–39 ③ → 38	39–40	40
8	39	40	40	40

H • n 160–163, k 9–11

k \ n	160	161	162	163
11	72–76	73–76	74–76	74–76
10	75–76	76–77 ③ → 76	76–78 ③ → 76–77	76–78
9	76–77	77–78	78	78–79

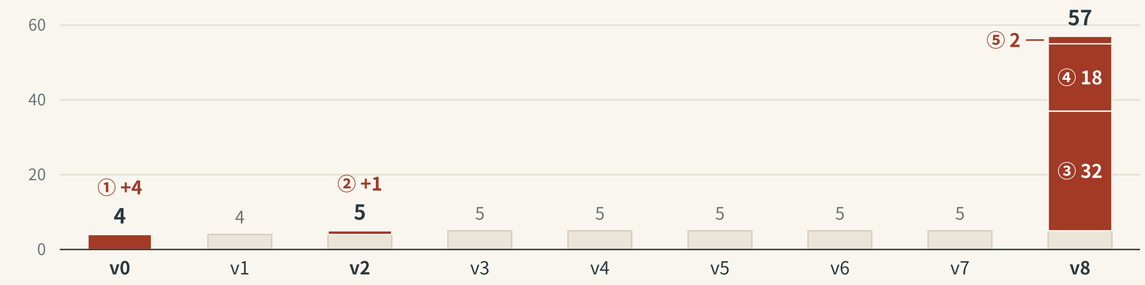
K • n 135–138, k 99–101 (outside the overview range)

k \ n	135	136	137	138
101	10–14	10–14	10–14	11–14
100	10–14	10–14 ④ → 11–14	11–14 ④ → 12–14	12–15
99	11–14	12–14	12–15	12–16

Intervals advanced by MathRSI

		Version	Cells	Bound
①	Nonexistence proof for [43,10,17] and its 3 corollaries	**v0**	**4**	upper
②	Reduction for [42,16]	**v2**	**1**	upper
③	Corollaries of published nonexistence theorems (not listed before)	**v8**	**32**	upper
④	Exhaustive CPU scan: one-step extensions of best known codes	**v8**	**18**	lower
⑤	Nonexistence proof for [41,12,15]	**v8**	**2**	upper
	Total (15 of them are now exact values)		**57**	

Cumulative intervals by MathRSI version (brown-red: added by that version)



Base table: codetables.de snapshot of 2026-11-22. ① and ⑤ are computer-assisted nonexistence proofs that rely on published classification results. ② and ③ follow from the nonexistence theorems of Bouyuklieva–Bouyukliev (ICMS 2020) and Kurz (2021) by shortening, puncturing, parity extension, residual codes and construction Y1; "not listed before" for ③ is the outcome of a literature search on 2026-11-22, not a proof of priority.

Every hit in ④ has an explicit generator matrix whose minimum distance was verified exhaustively by two independent implementations; values marked † follow from a neighbouring hit by parity extension or puncturing and were not verified on a separate matrix. Hit index of 2026-11-23; the scan is still running. None of the 18 cells in ④ closes its interval.