57 个报告区间更新——其中 2 个仍待验收

18 个构造性下界 + 37 个上界更新；另 2 个上界更新待验收。

行 [41,12]、[42,12]：补充审阅已通过，仍待源项目最终验收。

原图标示的 15 个精确值中，材料已验收 13 个，另 2 个仍待验收。

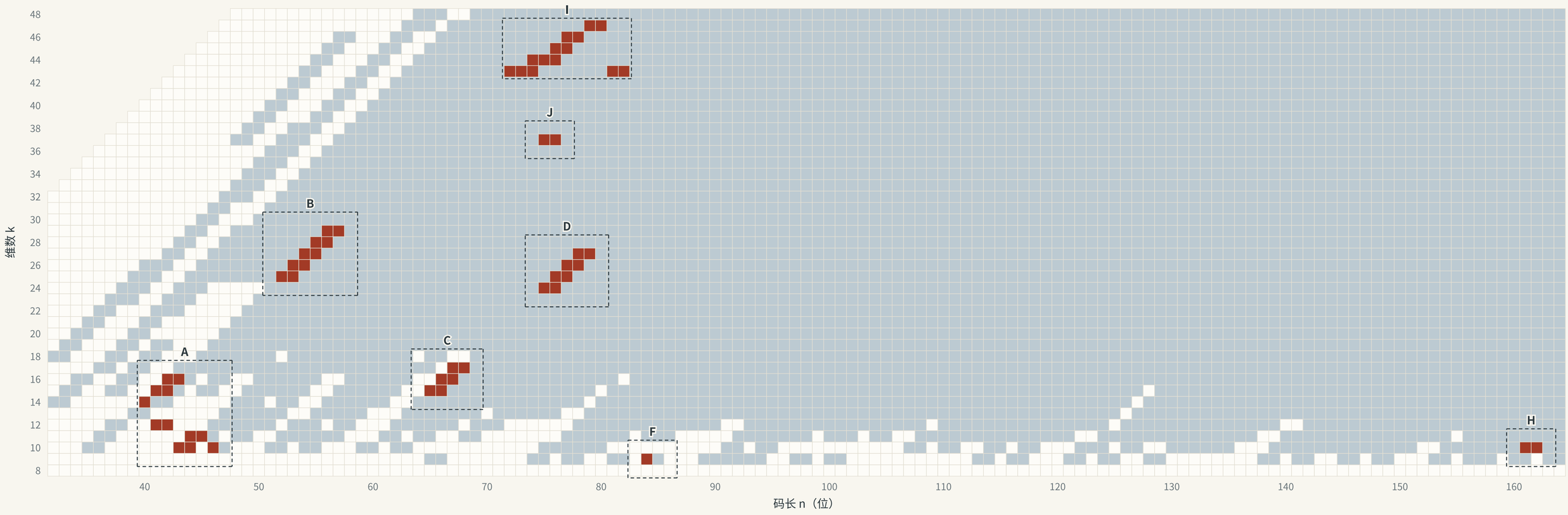
状态说明：MathRSI v8，2026-11-23。下方保留作者原图；归档原件未改。

二元线性码：MathRSI 推进的 57 个区间

横轴为码长 n，纵轴为维数 k；格内数值为最优最小距离 $d_2(n,k)$ 的已知值或区间；棕红格显示“码表区间 → MathRSI 结果”。

暖白：已闭合　蓝灰：未闭合　棕红：MathRSI 推进的区间（57 格；格内右上角 ①–⑤ 为来源，见左下表）

全景：n 32–164，k 8–48（虚线框为下方放大区域）



A · n 40–47，k 9–17

	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

	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

	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

	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

	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

	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

	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

	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

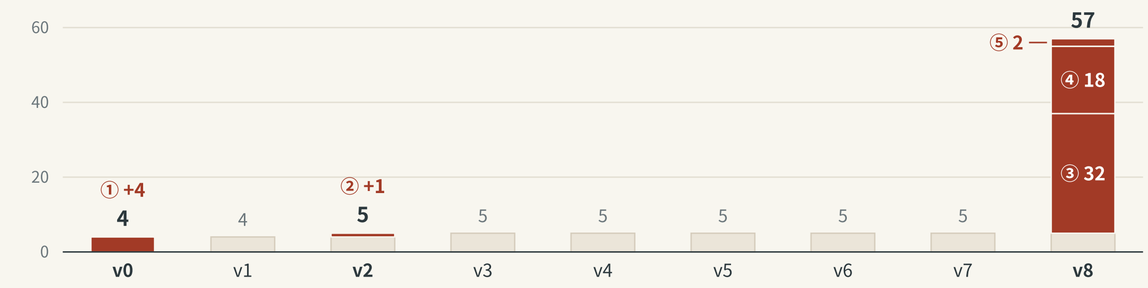
K · n 135–138，k 99–101（全景范围之外）

	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

MathRSI 推进的区间

		版本	格数	方向
①	[43,10,17] 不存在性证明及其 3 个推论	v0	4	上界
②	[42,16] 归约	v2	1	上界
③	已发表不存在性定理的推论（此前未见公开）	v8	32	上界
④	CPU 精确扫描：最好已知码的一步扩张	v8	18	下界
⑤	[41,12,15] 不存在性证明	v8	2	上界
	合计（其中 15 格得到精确值）		**57**	

各版本累计推进的区间数（棕红为该版本新增）



底表：codetables.de 2026-11-22 快照。①⑤ 是计算机辅助的不存在性证明，依赖已发表的分类结果（文献进口）。②③ 由 Bouyuklieva–Bouyukliev（ICMS 2020）与 Kurz（2021）的不存在性定理经缩短、穿孔、奇偶扩展、残码、Y1 推出；③ 的“此前未见公开”是 2026-11-22 的检索结论，不是首创性证明。④ 的每个命中都有显式生成矩阵，并经两套独立实现完整验距；带 † 的值由相邻命中码加奇偶位或穿孔推出，没有单独造矩阵验距。命中索引时间 2026-11-23，扫描仍在进行。④ 的 18 格都没有闭合区间。