

# Corrections

## Correction to "Minimum Complexity Density Estimation"

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In the above paper,<sup>1</sup> the formula  $\min L(q)/(n + D(p||q))$  for the index of resolvability on p. 1035, equation (1.3), should have read

$$R_n(p) = \min_q \left( \frac{L(q)}{n} + D(p||q) \right), \quad (1.3)$$

where  $D$  is the relative entropy,  $L(q)$  is the descriptive complexity, and  $n$  is the sample size, in agreement with the formal definition of the index of resolvability on p. 1039, equation (5.3).

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<sup>1</sup>A. R. Barron and T. M. Cover, "Minimum complexity density estimation," *IEEE Trans. Inform. Theory*, vol. 37, no. 4, pp. 1034–1054, July 1991.

## Correction to "Upper Bounds for $q$ -ary Covering Codes"

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In the above correspondence,<sup>1</sup> the following corrections are necessary.

The proof of Theorem 1 consists of one paragraph.

Definition 3 should read: A  $(q, n, M)R$  code  $C$  is said to be *strongly seminormal*....

The proof of Theorem 2 consists of two paragraphs.

Theorem 3 should read: If a  $(q, n, M)R$  code is seminormal and  $q$  is a prime power, then  $K_q(n + q, R + 1) \leq q^{q-2}M$ .

The second sentence of the proof of Theorem 3 should end with: is a  $(q, n + q, q^{q-2}M)R + 1$  code.

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<sup>1</sup>P. R. J. Östergård, *IEEE Trans. Inform. Theory*, vol. 37, no. 3, pp. 660–664, May 1991.

The first sentence of the second paragraph of the proof of Theorem 3 should read: Let  $x = (u, v) \in F_q^{n+q}$ ,  $u \in F_q^n$  and  $v \in F_q^q$ .

The third sentence of the second paragraph of the proof of Theorem 3 should read: ...  $d((u, v), C^n) \leq R + 1, \dots$

The second sentence of the last paragraph on p. 661 should read: Especially interesting are the cases where this construction applied to two codes ( $A$  and  $B$ ) with covering radii....

The proof of Theorem 4 should end with:

$$d((u, a), A_a \oplus \{a\}) > R_A,$$

and for all  $b \in F_q \setminus \{a\}$ ,

$$d((u, a), A_b \oplus \{b\}) \geq R_A + 1,$$

which contradicts the fact that  $A$  has covering radius  $R_A$ . Remembering that the covering radius of  $B$  is  $R_B$ , we get  $R_C \leq R_A + R_B$ .  $\square$

The second sentence of Section IV should read: The lower bounds in Tables I–III....

Corollary 4 should read:  $K_4(n + 4, R + 2) \leq 4 \cdot K_4(n, R)$ .

The first two sentences after Corollary 4 should read: It is conjectured that strongly seminormal  $(5, 6, 125)R = 2$  and  $(5, 6, 25)R = 3$  codes exist. The existence of these codes would make it possible to improve many of the bounds in Table III.

The end of the proof of Theorem 6 is at the end of the first column on p. 663.

The second to last sentence of the proof of Theorem 6 should read:...

$$= q^2r - qp - qr - q + p + 2,$$

which contradicts the fact that....

The first sentence of the last paragraph of Section IV should read: Some new codes that have been found are explicitly listed in Appendix A.

The first sentence of Appendix A should read: A  $(5, 4, 11)R = 2$  code....

The second sentence of Appendix A should read: A  $(5, 5, 35)R = 2$  code....

The codeword 14103 of the  $(5, 5, 35)R = 2$  code is incorrect; it should read 41103.

The fourth sentence of Appendix A should read: The following matrices generate....

The first, second, and third sentences on p. 664 should begin with A.

Key <sup>i</sup> of Appendix B should read: Appendix A.

Reference [8] appeared in *IEEE Trans. Inform. Theory*, vol. 37, no. 2, pp. 351–365, Mar. 1991. Reference [9] appeared in *J. Combin. Theory*, vol. 56A, pp. 84–95, 1991. Reference [13] should read: ...vol. 35, no. 6.... Reference [14] should end with: *J. Lon. Math. Soc.* (2), vol. 1, pp. 493–499, 1969. Reference [17] appeared in *IEEE Trans. Inform. Theory*, vol. 37, no. 1, pp. 179–180, Jan. 1991.