

Comments and Corrections

Correction to “TCM With Differential Encoding: Set Partitioning, Trellis Designs and Distance Analysis”

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Index Terms—Differential encoding, noncoherent detection, trellis-coded modulation

We present a correction to [1]. In Table III, d_{free}^2 for new codes with $L = 32$ should be 3.561 (instead of 3.667) and 3.233 (instead of 3.385) for TCM-DE and DTCM, respectively. The corresponding paragraph on the same page, “For $L = 32$, the best d_{free}^2 is in simulations.” should be modified as “For $L = 32$, the best d_{free}^2 is $5\Delta_1^2 + 2\Delta_0^2$ (for instance, two paths (0,0,0,0,0,0) and (0,2,0,1,2,2), so the resulting minimum squared distance is $\min[\Delta_2^2, d_{free}^2] = 3.233$ for 8PSK. There are some codes that have the best d_{free}^2 and we choose (C0,C2),(C3,C1),(C3,C1),(C2,C0),(C2,C0),(C1,C3) and (C1,C3) for $\sigma^{(1)}, \dots, \sigma^{(7)}$ in simulations.” In addition, the trellis diagram in Fig. 12(b) should be corrected to Fig. 1.

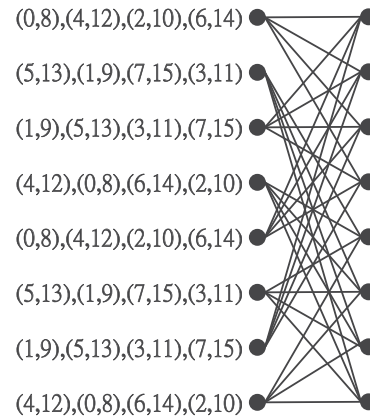


Fig. 1. The trellis diagram for 8-state differential trellis-coded 16APSK.

REFERENCES

- [1] R.-Y. Wei, J. A. Ritcey, and B.-S. Lu, “TCM with differential encoding: Set partitioning, trellis designs, and distance analysis,” *IEEE Trans. Commun.*, vol. 63, no. 8, pp. 2776–2787, Aug. 2015.

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