

卒業論文中間報告

タイトル

2022 年 9 月 30 日提出

指導教員 廣瀬 明 教授

電気電子工学科
03-210478 上野俊樹

目次

1	序章	3
1.1	背景	3
1.2	目的	3
2	従来手法と基本原理	3
2.1	計測方法	3
2.2	特徴良ベクトルの抽出	3
2.3	. . . . .	3
3	提案手法	3
3.1	. . . . .	3
3.2	. . . . .	3
3.3	. . . . .	3
4	実験結果	3
4.1	. . . . .	3
4.2	. . . . .	3
5	今後の予定	3

1 序章

1.1 背景

1.2 目的

2 従来手法と基本原理

2.1 計測方法

2.2 特徴良ベクトルの抽出

2.3

3 提案手法

3.1

3.2

3.3

4 実験結果

4.1

4.2

5 今後の予定

参考文献

- [1] T. Susuki and I. Arai, "Advance on underground radars," IEICE Transactions, vol.E74, no.2, pp.289-294, 1991.
- [2] T. Counts, A. C. Gurbuz, W. R. Scott Jr., J. H. McClellan and K. Kim, "Multistatic ground-penetrating radar experiments," IEEE Transactions on Geoscience and Remote Sensing, vol. 45, no. 10, pp. 2544-2553, October 2007.
- [3] C-C Chen, S. Nag, W. D. Burnside, J. I. Halman, K. A. Shubert and L. Peters, Jr., "A Standoff, Focused-Beam Land Mine Radar," IEEE Transactions on Geoscience and Remote Sensing, vol.38, no.1, pp. 507-514, 2000.
- [4] Jeroen Groenenboom, Alexander Yarovoy, "Data Processing and Imaging in GPR System Dedicated for Landmine Detection," Subsurface Sensing Technologies and Applications, vol.3, no.4, pp. 387-402, 2002.
- [5] Alexander G. Yarovoy and Leo P. Ligthart, "Polarimetric video impulse radar for landmine detection," Subsurface Sensing Technologies and Applications, vol.3, no.4, pp. 271-293, 2002.
- [6] M. Sato, Y. Hamada, X. Feng, F. N. Kong, Z. Zeng and G. Fang, "GPR using an array antenna for land-mine detection," Near Subsurface Geophysics, vol. 2, pp. 7-13, 2004.
- [7] M. Sato, K. Takahashi, X. Feng and T. Kobayashi, "Dual sensor evaluation test in Afghanistan," IEEE Geoscience and Remote Sensing Society Newsletter, pp. 22-24, September 2005.
- [8] M. Sato, K. Takahashi, "Development of Dual Sensors and Deployment in Mine Affected Countries," in *Anti-personal Landmine Detection for Humanitarian Demining*, pp. 27-44, 2009.
- [9] S. Masuyama and A. Hirose, "Walled LTSA array for rapid, high spatial resolution, and phase sensitive imaging to visualize plastic landmines," IEEE Transactions on Geoscience and Remote Sensing, vol. 45, no. 8, pp. 2536-2543, August 2007.
- [10] S. Masuyama, K. Yasuda and A. Hirose, "Multiple mode selection of walled-ltsa array elements for high resolution imaging to visualize antipersonnel plastic landmines," IEEE Geoscience and Remote Sensing Letters, vol. 5, no. 4, pp. 745-749, October 2008.
- [11] Y. Nakano and A. Hirose, "Improvement of plastic landmine visualization performance by use of ring-cscom and frequency-domain local correlation," IEICE Transactions on Electronics, vol. E92-C, no. 1, pp. 102-108, January 2009.
- [12] Y. Nakano and A. Hirose, "Adaptive identification of landmine class by evaluating the total degree of conformity of ring-SOM," Australian Journal of Intelligent Information Processing Systems, pp. 23-28, December 2010.
- [13] R. Karlina and M. Sato, "Model-Based Compressive Sensing Applied to Landmine Detection by GPR," IEICE Transaction, vol.E99-C, no.1 pp.44-51, 2016.