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REFERENCES

[1] Li Hang, Chen Houjin, "Key technology and application prospect of the internet of things", Forum on Science and Technology in China, January 2011.

[2] Du Hongli, Wu Jun, Yu Hong, "The research of enterprise's SCM based on internet of things". Logistics Sci-Tech, March 2011.

[3] Xing Zhiqing, Fuxing, "Study on the internet of things in modern agricultural production", Agricultural Technology & Equipment, August 2010.

[4] S. C. Kim, I. Song, S. Yoon and S. R. Park, "DOA estimation of angle-perurbed sources for wireless mobile communications", IEICE Trans. Communication, vol. E83-B, No.11, 2000, pp.2537-2541.

[5] J.X.Wu, T.Wang, Z.Y.Suo, et al, "DOA estimation for ULA by spectral Capon rooting method", Electronics Letters, vol.45, No.1, 2009, pp.84-85.

[6] J.M.Xin and S.A, "Linear prediction approach to direction estimation of cyclostationary signals in multipath environment", IEEE Transactions on Signal Processing, vol.49, No.4, 2001, pp.710-720.

[7] E.Grosicki, K. Abed-Meraim and K.Y.Hua, "A weighted linear prediction method for near-field source localization ", IEEE Transactions on Signal Processing, vol.53, No.10, 2005, pp.3651-3660.

[8] T.B.Lavate, V.K.Kokate and A.M.Sapkal, "Performance analysis of MUSIC and ESPRIT DOA estimation algorithms for adaptive array smart antenna in mobile communication", International Journal of Computer Networks, vol.2, No.3, 2010, pp. 152-158.

[9] A.Hirata, T.Morimoto and Z.Kawasaki, "DOA estimation of ulta-wideband EM waves with MUSIC and interferometry", IEEE Antennas and Wireless Propagation Letters, vol.2, No.1, 2003, pp.190-193.

[10] F.Taga, "Smart Music algorithm for DOA estimation", Electronics Letters, vol.33, No.3, 1997, pp.190-191.

[11] W.Sun, J.L.Bai and K.Wang, "Novel method of orginal bearing estimation for more sources based on oblique projector", Journal of Systems Engineering and Electronics, vol.20, No.3, 2009, pp.445-449.

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