

Preface

Spectrum sensing is critically important for cognitive radio, an emerging solution to the spectrum congestion and low usage of licensed spectrum. Energy detection is a promising low-complexity and low-cost spectrum sensing technique. Its performance analysis has been revisited extensively in the recent literature. This book thus aims at a comprehensive summary of recent research on energy detection for spectrum sensing in cognitive radio networks. This book is for researchers and engineers in both industry and academia who would like to know more about applications of energy detection.

After introducing cognitive radio and spectrum sensing techniques in Chap. 1, we discuss the basics of conventional energy detection in detail in Chap. 2. To improve conventional energy detection, many alternative energy detection techniques have been developed, which are described in Chap. 3. The common performance measures of energy detector are described in Chap. 4. Finally, Chap. 5 deals with diversity and cooperative spectrum sensing techniques which can significantly improve energy detection performance.

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