MATLAB® Software for the
Code Excited Linear
Prediction Algorithm

The Federal Standard–1016

Karthikeyan N. Ramamurthy and Andreas S. Spanias
Arizona State University

SYNTHESIS LECTURES ON ALGORITHMS AND SOFTWARE IN ENGINEERING #3
ABSTRACT
This book describes several modules of the Code Excited Linear Prediction (CELP) algorithm. The authors use the Federal Standard–1016 CELP MATLAB® software to describe in detail several functions and parameter computations associated with analysis-by-synthesis linear prediction. The book begins with a description of the basics of linear prediction followed by an overview of the FS-1016 CELP algorithm. Subsequent chapters describe the various modules of the CELP algorithm in detail. In each chapter, an overall functional description of CELP modules is provided along with detailed illustrations of their MATLAB® implementation. Several code examples and plots are provided to highlight some of the key CELP concepts.

The MATLAB® code within this book can be found at http://www.morganclaypool.com/page/fs1016

KEYWORDS
speech coding, linear prediction, CELP, vocoder, ITU, G.7XX standards, secure communications


96 BIBLIOGRAPHY


[76] Website for the book. Available online at: http://www.morganclaypool.com/page/fs1016 60, 68, 70, 72, 75
