

## **ULTRA-WIDEBAND SIGNALS AND SYSTEMS: AN INTRODUCTION AND OVERVIEW**

**VISHAL B. RASKAR AND S. D. APTE**

### **Abstract**

In this paper, the main focus is on the basic signal processing that underlies current & future ultra wideband systems. This paper reviews a brief look at why UWB is considered to be such an exciting wireless technology for the near future. Here Shanon's famous capacity equation and as a consequence, look at the large bandwidth possibilities for high data rate communication are examined. The world of ultra wideband has changed dramatically in very recent history. In the past 20 years, UWB was used for radar, sensing, military communications & many applications. This paper will focus almost exclusively on the communication aspects of UWB.