

Prostate cancer is the second most diagnosed cancer of men all over the world. In the last decades, new imaging techniques based on Magnetic Resonance Imaging (MRI) have been developed improving diagnosis. In practise, diagnosis can be affected by multiple factors such as observer variability and visibility and complexity of the lesions. In this regard, computer-aided detection and computer-aided diagnosis systems have been designed to help radiologists in their clinical practice. Research on computer-aided systems specifically focused for prostate cancer is a young technology and has been part of a dynamic field of research for the last ten years. This survey aims to provide a comprehensive review of the state of the art in this lapse of time, focusing on the different stages composing the work-flow of a computer-aided system. We also provide a comparison between studies and a discussion about the potential avenues for future research. In addition, this paper presents a new public online dataset which is made available to the research community with the aim of providing a common evaluation framework to overcome some of the current limitations identified in this survey.