

BACKGROUND SUPPRESSION WITH LOW-RESOLUTION CAMERA IN THE CONTEXT OF MEDICATION INTAKE MONITORING

Gabriel Dauphin¹, Sami Khanfir²

1: Laboratoire de Traitement et de Transport de l'Information, Université Paris 13, France

2: Unité de recherche en Technologies de l'Information et de la Communication à l'ESTT, Tunisie

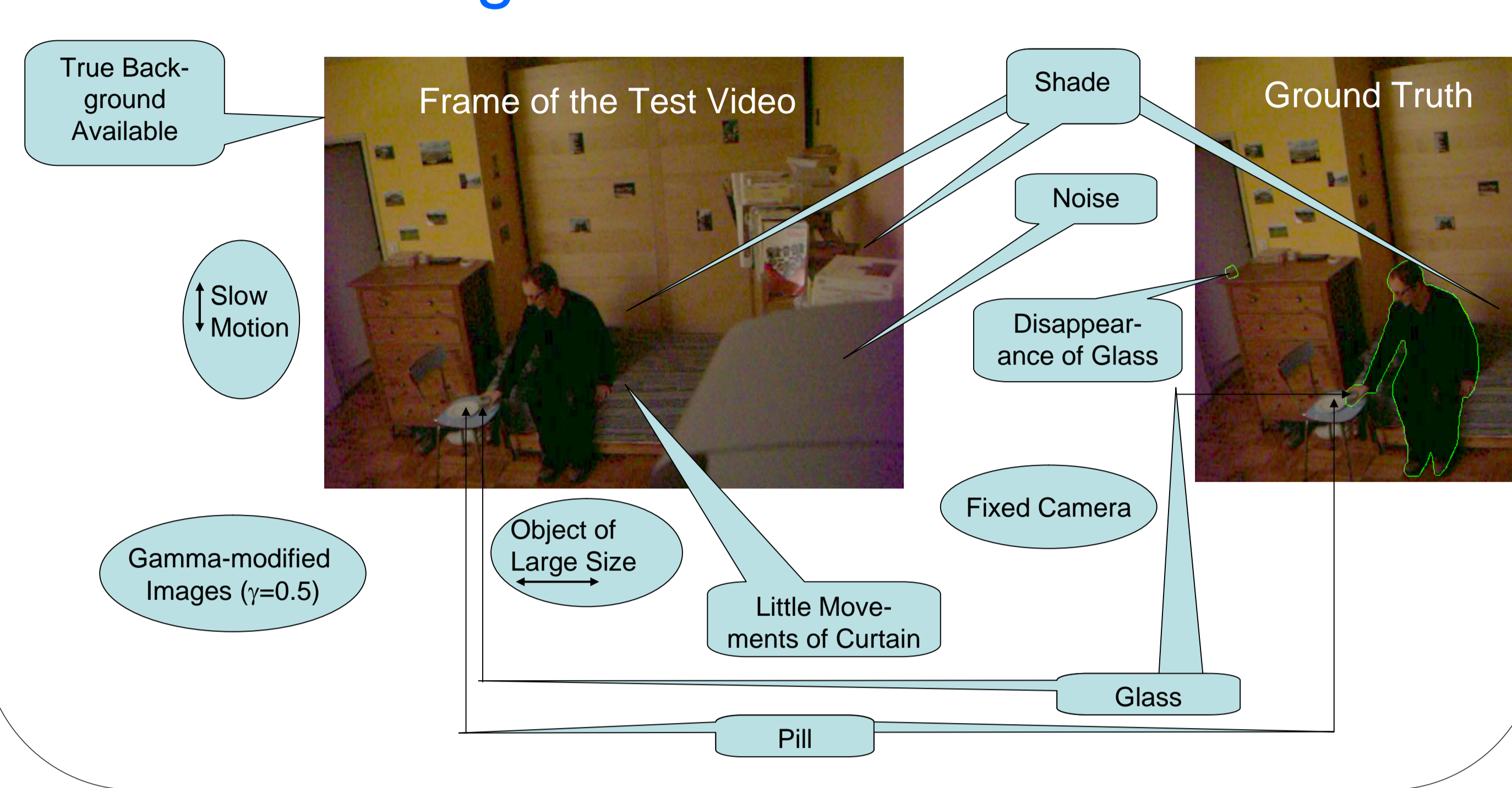
Abstract

As the aging population is growing, new challenges are arising to provide a safe living environment with remote medical monitoring to allow elderly people to stay at home. This paper is concerned with the monitoring of medication intake, [1]. A new technique is proposed for background suppression designed to achieve indoor monitoring for a given video capture device, including low-cost commercially available cameras or webcams with low capturing resolution. The true background image is supposed to be found in the test video sequence, as it is thought to be possible in this application.

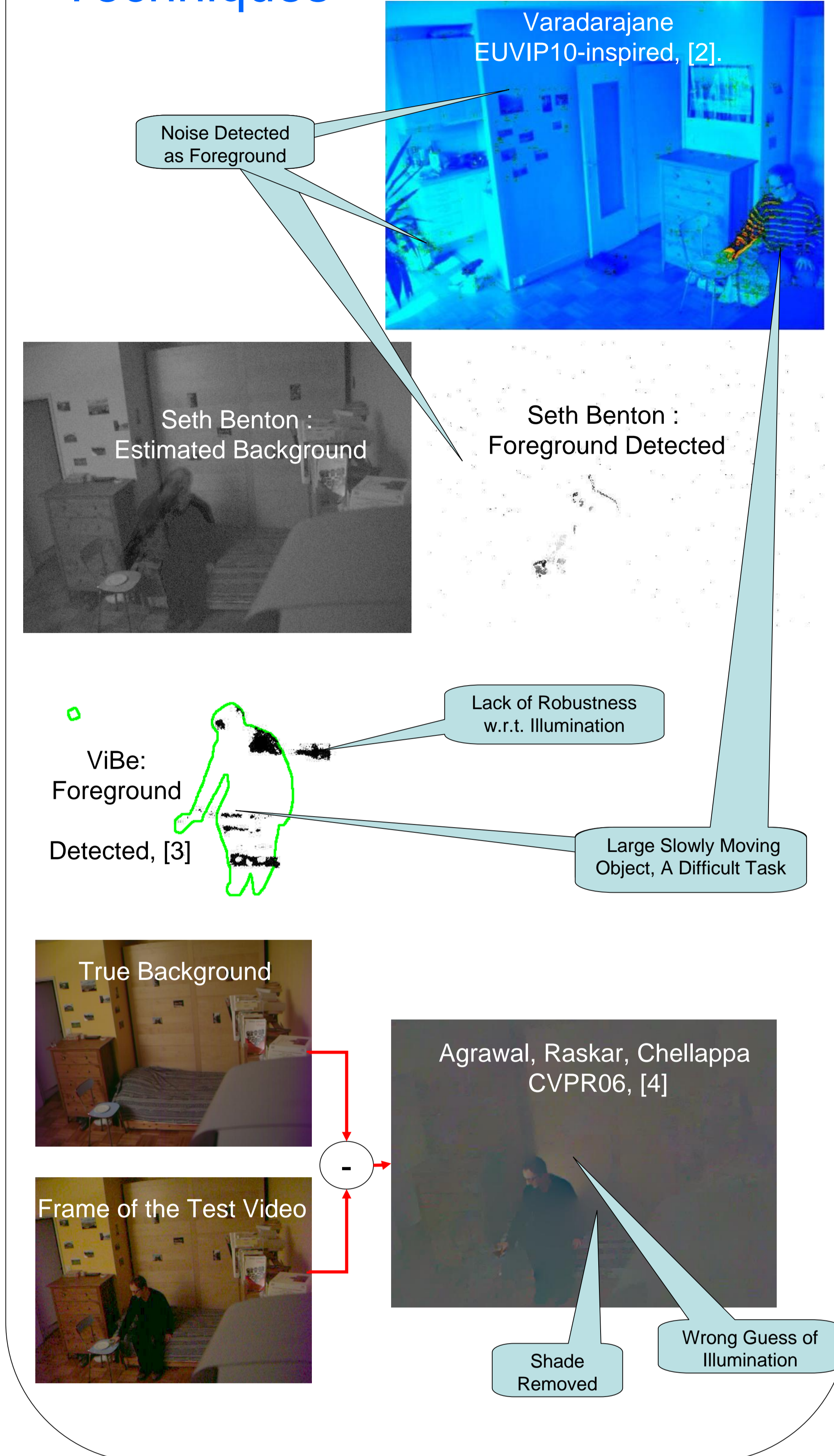
The background suppression process can be thought of as a quality measure with reference; the reference being the background image. Instead of taking into account findings on human visual system (HVS), the proposed technique is actually based on measurements of noise output from video capture device.

Experimental results are presented, comparing foreground detection by the proposed technique, two published background suppression algorithms, and three well-known quality measures.

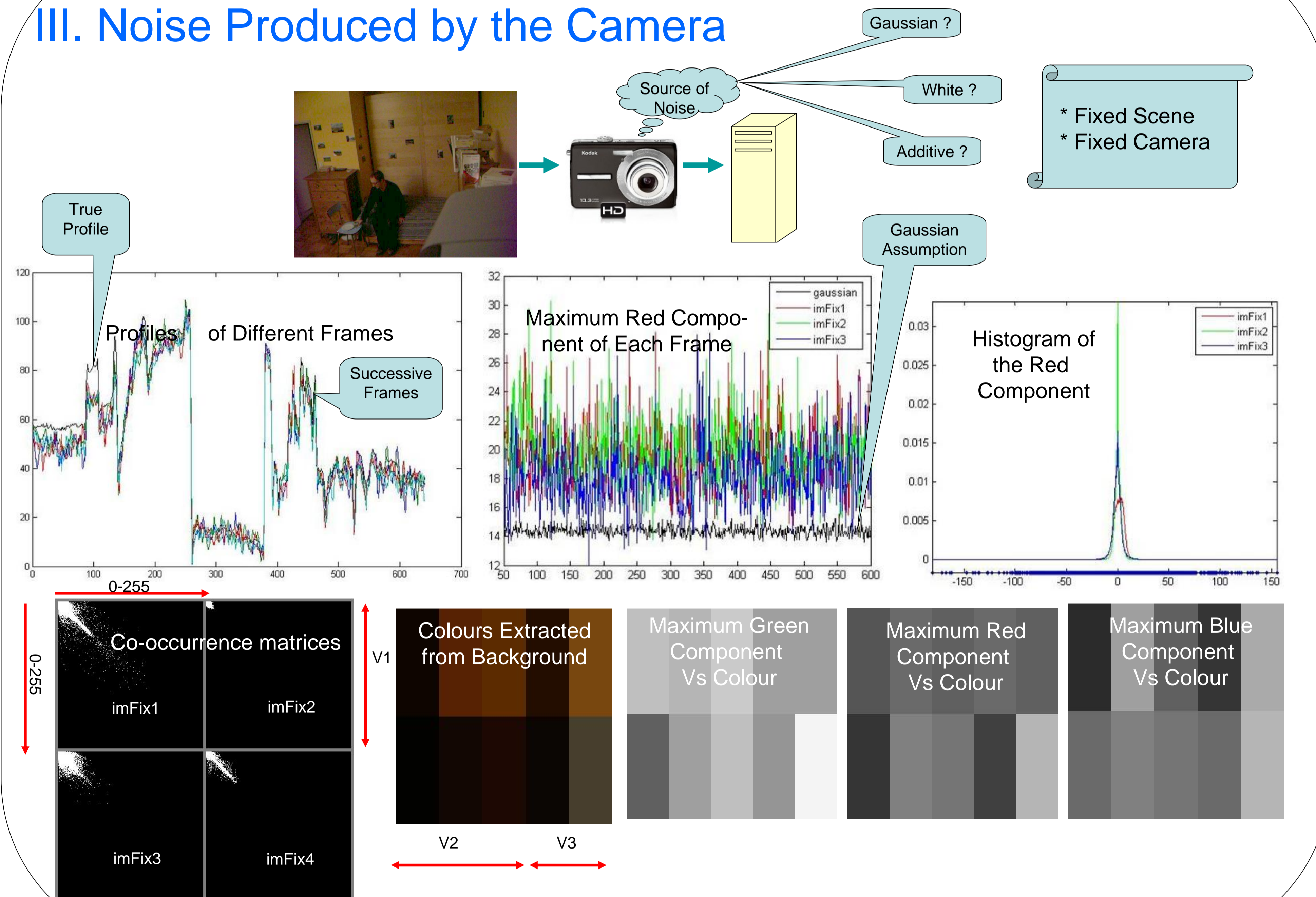
I. The Challenge



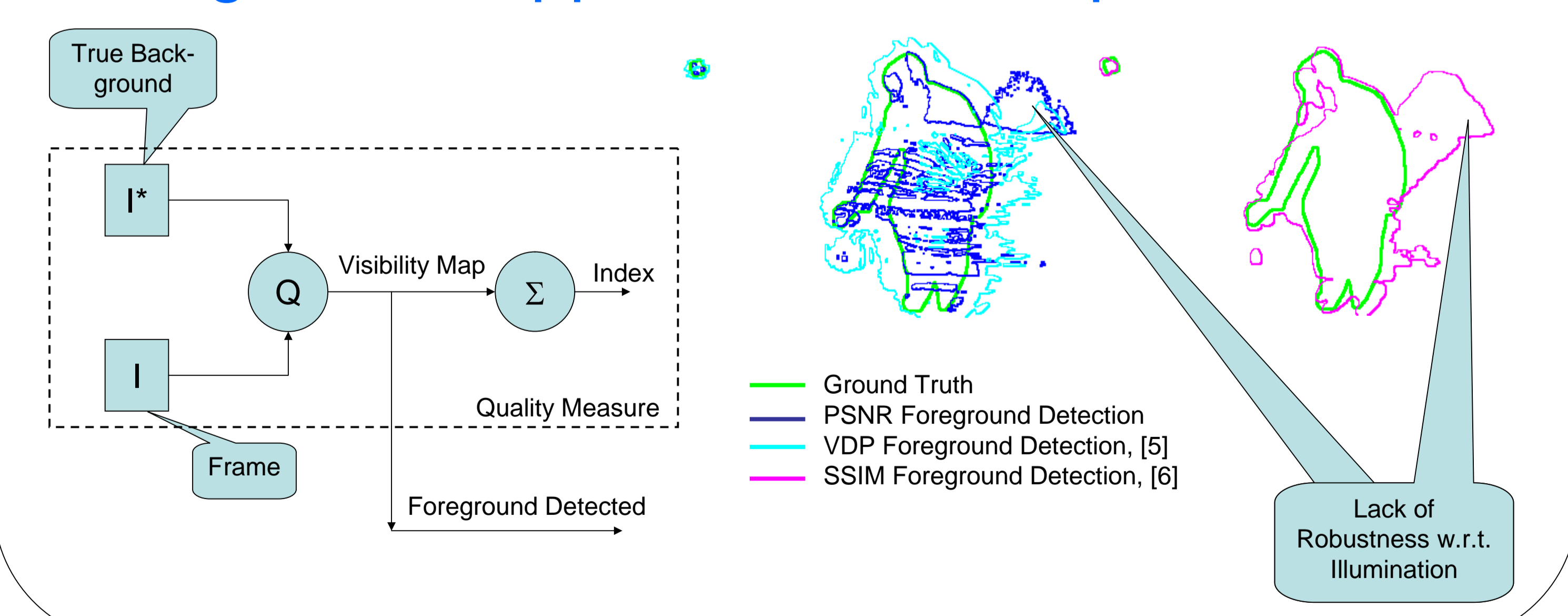
II. Background Suppression Techniques



III. Noise Produced by the Camera



IV. Quality Measures Used as Background Suppression Techniques



References

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V. The Proposed Technique

