

1077-P5-2893 **Helmut Knaust*** (hknaust@utep.edu), Department of Mathematical Sciences, UTEP, El Paso, TX 79968-0514. *Smoke Detection in Stationary Video Using Wavelets*. Preliminary report.

Automatic fire detection is a highly desirable feature of video surveillance technology. We will present a wavelet-based algorithm to detect smoke in stationary video. This algorithm is based on the observation that the presence of smoke causes changes in the high-frequency content of the video still frames. In color video, smoke also affects the chrominance channels.

This open-ended topic is suitable for student projects in an undergraduate applied mathematics course. Prerequisites include some familiarity with basics of digital signal processing and wavelet transforms. (Received September 22, 2011)