

Development of Standards in Hyper-Spectral Imaging: IEEE P4001 Standards Workgroup

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There are rapidly growing markets for hyper-spectral imagers in wide ranging applications, too many to comfortably list here, but include agri-food, medical, environmental, manufacturing, and defence. This has led to the development of new hyper-spectral imagers in a range of sizes and performances as well as new platforms for deployment such as benchtop, UAV and small satellite.

Today, there are few, if any, “hyperspectral imaging standards” and this is the reason the IEEE P4001 project has been started: to bring the community together to form a consensus and formalise the standards that are needed to provide basic tools, test recommendations and procedures for absolute characterisation of HSI Instruments.

The focus of this work group is visible, near infrared and short-wave infrared (300 to 2500nm) spectral range using grating-based systems that are deployed in airborne, handheld and benchtop type systems. Mainly, these use push-broom (line-scan) configurations and have some scanner mechanism to produce 2-D images.

Through the community this standard will determine the standards that are needed, what takes priority and what if any standards can be sited.

The IEEE is sponsoring this work to establish the standard.

It is expected that the outcome of this standard work will assist to establish a foundation for future efforts in other spectral regions and instrument configurations.

The success of this standard development depends upon the community and this presentation will outline the project and call for participation in the process.