

## **Virtual Hybrid Edge Detection**

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Although Electrical Impedance Tomography (EIT), based on boundary voltage and current measurements, has been the source of enormous theoretical and computational advances in the last 30 years, clinical application has been hindered by its low spatial resolution. More recently, so called hybrid imaging has obtained better results by coupling EIT with high resolution modalities such as ultrasound. I will describe a new approach, Virtual Hybrid Edge Detection (VHED), combining the high contrast sensitivity of EIT with the high resolution obtained through introduction of a nonphysical variable, rather than by a physical coupling of electrostatics with another type of wave. VHED produces a leading term which is a generalized Radon transform and therefore stably invertible. This is joint work with M. Lassas, M. Santacesaria, S. Siltanen and G. Uhlmann.