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Deconvolution of a Plasma Pulse Signal by use of the Hilbert-Huang Transform JAMES HENDERSON, DERETH DRAKE, Valdosta State University — The Hilbert-Huang Transform uses the method of empirical mode decomposition in which a signal is decomposed into multiple signals called intrinsic mode functions (IMFs). A Hilbert Transform is then applied to these functions in order to obtain instantaneous frequency data. This results in a time dependent distribution of signal amplitudes, known as the Hilbert Spectrum. By applying this transform to a complex or noisy signal, the noise can be isolated and removed from the signal source. This allows for a much cleaner, easier to study signal. In this poster, we will describe the theory behind this technique and demonstrate how it can be used to study the plasma pulse from a commercial plasma system.

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