

1067-42-263

Enrico Au-Yeung and **John J Benedetto*** (jjb@math.umd.edu), Norbert Wiener Center,
Department of Mathematics, University of Maryland, College Park, MD 20742. *Balayage and the
theory of generalized Fourier frames*. Preliminary report.

Originating in Christoffel's notion of balayage in 1871, and developed in the area of potential theory, we focus on Beurling's theorem, which in modern terminology asserts that balayage gives rise to Fourier frames. We extend this point of view into a new theory in a significant way. In this first part of the extension we construct frames by proving classical theorems depending on measures that go beyond the original Beurling approach. It should be pointed out that the Wiener-Beurling theory of spectral synthesis plays an intrinsic role in this approach. (Received August 14, 2010)