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Kevin Ahrendt (kahrendt@mines.edu), **Areeba Ikram** (aikram@mines.edu) and **Larsen Kronstad*** (lkronsta@mines.edu). *An Extension of Regressive Functions from Discrete Nabla Calculus into the Complex Domain*. Preliminary report.

The nabla discrete exponential function is defined to be the solution of an initial value problem involving a difference equation. From this, we build hyperbolic and circular sinusoids with similar properties to the analogous continuous functions. In constructing such functions, we need to incorporate complex valued discrete exponentials. By extending the definition of nabla regressive functions to include complex valued functions, we obtain an analogue to DeMoivre's Theorem for discrete sinusoids. (Received September 16, 2019)