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We discuss the asymptotic behavior of the solutions of the nonhomogenous first order refinement differential equation

$$x'(t) + x(t) = 2x(\lambda t) + f(t)$$

where $f(t)$ is a continuous function on $[0, \infty)$ and $\lambda > 1$, is an integer. These equations are relevant to wavelet analysis and signal processing when $\lambda = 2$. (Received September 28, 2005)