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# Note on the zeros' distribution for a family of functions

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**Abstract -** We find the zeros $0 < x_* < 1$ for a family of functions $h(x, y)$ indexed by the parameter $y_*$. For all these functions the recurrent string $\{x_n\}_n$ is always convergent when the starting point $0 < x_1 < 1$ is arbitrary. Knowing the distribution of the index $y_*$ we finally deduce the distribution of the zeros $x_*$ with $h(x_*, y_*) = 0$. The correlation between the $x_*$ and $y_*$ values is also determined both theoretically and experimentally too. The proposed procedure A1 permits to generate samples $\{x\}$ with complex distributions when the sample$\{y\}$ is known.

**Key words and phrases :** Distribution of the zeros, sample generation, approximation procedure, probability density function, Newton method, Farlie-Gumbel-Morgenstern distribution.

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