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Identities for $\sin x$ that came from medical imaging.

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Summary: The article describes interesting nonlinear differential identities satisfied by standard exponential and trigonometric functions. They appeared as byproducts of medical imaging research and look like some type of non-commutative binomial formulas. A brief description of the origin of these identities is provided, as well as their direct algebraic derivation. Relations with separate analyticity theorems in several complex variables and some open problems are also mentioned.

Classification: I55 M65 M55 H35

Keywords: medical imaging research; non-commutative binomial formulas

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