A tri-harmonic Neumann function for the unit disc.

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Abstract: In this paper we consider a tri-harmonic Neumann function for the unit disc. The Neumann problem is well studied for harmonic functions and solved under certain conditions via the Neumann functions, sometimes also called Green function of second kind [1]. A tri-harmonic Neumann function is constructed in an explicit way for the unit disc of the complex plane by convoluting the harmonic with a bi-harmonic Neumann function. With this Neumann function an integral representation formula is developed for the try-harmonic operator.

References

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