We present the Mimetic Methods Toolkit (MTK), an object-oriented Application Programming Interface implementing Mimetic Finite Differences to assist in the development of scientific applications, where the numerical solution of Partial Differential Equations is required. The MTK’s design is based on a variant of the Castillo–Grone Method for the construction of discrete differential operators that mimic important properties of their continuous counterparts. The MTK is built as a collection of abstract and concrete classes, thus allowing for an extensible framework, which fosters code reutilization, while intuitively educating the user about the theoretical aspects of Mimetic Finite Differences. We present an overview to Mimetic Finite Differences, and we discuss the computational modeling of the related concepts; in this way, we explain how does the MTK implement these methods. By means of examples, we illustrate the MTK’s usage philosophy and, finally, we show the correctness of the implementation efforts in the MTK by comparing the attained results against previously studied reference solutions.

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