



Analysis of Fraction Skill Score properties in idealized cases

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Fraction Skill Score (FSS) is a recently developed and popular metric used for precipitation verification. The method is relatively simple to understand and easy to implement while simultaneously exhibiting some very useful properties. One of its most valuable properties is the ability of the FSS to determine the spatial scale at which the forecast can be deemed useful. In the study, the properties of the FSS have been analyzed for some idealized cases, most notably for a single displaced rainy grid point and for randomly distributed precipitation, both located inside a rectangular domain. For these idealized cases, an analytical solution can be obtained for the FSS expression. The analysis of expression is performed in order to derive some basic properties of FSS, such as the influence of the borders and orientation on the FSS value as well as a new derivation of the useful forecast criteria.