

69. Zvi Artstein, **A calculus for set-valued maps and set-valued evolution equations**. Set-valued Analysis 3 (1995), 213-261.

**Abstract.** A definition of differentiability of a set-valued map is offered. As derivatives, which are called directives in the set-valued setting, unions of affine maps are used; these are called multiaffines. A multiaffine is a directive if it is a first-order approximation of the set-valued map. One application is a necessary condition for maximin optimality of constrained decisions. A distance among multiaffines permits the development of set-valued evolution equations along the lines of ordinary differential equations in a vector space. The theory is displayed along with some comments on applications

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