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Walter Taylor* (walter.taylor@colorado.edu). *Approximate satisfaction of equations on metric spaces.*

We will present some ideas and results concerning the approximate identical modeling of equations Σ by continuous operations on a metric space A . It often happens that A and Σ are *incompatible*, meaning that no continuous operations precisely model Σ on A , and the present investigation hopes to elucidate this phenomenon of incompatibility. We are able in some cases to distinguish two cases: (i) for each $\varepsilon > 0$, there are continuous operations on A modeling Σ within ε , and (ii): the negation of (i).

We also examine the question of whether there are operations F_t exactly modeling Σ on A , such that all the discontinuities of each F_t are smaller than a given ε . (In a sense which we make precise.) (Received November 07, 2011)