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of

Fuzzy Modeling Approach for Integrated Assessments Using Cultural Theory

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**Abstract:** It has already been noted that the accurate prediction of societal responses requires the use of a formal model based on some social or cultural taxonomy. One such taxonomic candidate is Cultural Theory (CT). CT argues that all societies, irrespective of time or place, are informed by their underlying worldviews, which must be more or less Hierarchic, more or less Individualistic, more or less Egalitarian, and more or less Fatalistic. This approach appears to have a potential for cross-temporal and spatial comparisons that makes it a particularly attractive instrument for a study of the human dimensions of global climate change. However, a significant difficulty in previous attempts to use CT in integrated assessment models (IAMs) has been inexactness or uncertainty inherent in both IAMs and CT. In this paper we introduce a fuzzy-based modeling approach using CT in integrated assessment approach to model social reactions to environmental policy decisions.

**Key Words:** Decision making under uncertainty, Cultural Theory, Integrated assessments, Fuzzy logic

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