

Working Papers

QR '94

The Eighth International Workshop on Qualitative Reasoning about Physical Systems

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Preface

International Workshop on Qualitative Reasoning about Physical Systems (QR) is an annual forum for a small group of researchers (approximately 50) to get together in an intimate atmosphere to survey recent results in qualitative reasoning and to debate new approaches. Since the first workshop in 1987, the workshop site has alternated between the United States and Europe every year.

This year we meet in Nara, Japan, celebrating the community's escape from a simple flip-flop behavior and embarkment in a more complex behavior. Interestingly, this transition from the simple to the complex coincides the recent shift of the community's concern from simplistic toy problems into complex real world problems. In fact, we will have a couple of exciting demonstrations: Mita's self-maintenance copier (physical demonstration) and IBM's mechanism design and analysis using configuration spaces (video-taped demonstration).

We have received 53 submissions. The levels of submitted papers were very high, all addressing interesting issues related to qualitative reasoning. Due to the unfortunate limitation of spatio-temporal resources, we have selected 14 papers for oral presentation and 20 papers for poster presentation, as the most promising papers for stimulating important discussion. This volume contains the written version of these 34 papers.

Roughly, the papers can be classified into three categories. The first is concerned with modeling, a continuing interest of the community. The second is on integration of qualitative reasoning techniques with numerical or/and mathematical techniques. The third addresses task-level reasoning, application of qualitative reasoning techniques to engineering problem solving.

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