Universidade Federal de Minas Gerais
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Laboratório de Modelagem, Análise e Controle de Sistemas Não-Lineares

Sensor Fusion for Irregular Sampled Systems

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Dissertação apresentada ao Programa de Pós-Graduação em Engenharia Elétrica da Universidade Federal de Minas Gerais como requisito parcial para a obtenção do grau de Mestre em Engenharia Elétrica

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1 Introduction

1.1 Motivations

Nature has learned to merge multiple information from several sources a long time ago, in order to have a better perception of the environment. Animals combine signals received by different senses, such as sight, hearing, smell, taste and touch to recognize the surroundings. Plants have an analogous sensory system, used to water consumption modulation, leaf-colour changes or structure bending towards the light, for instance. Throughout history evolution has led to highly complex and efficient muli-sensor systems in living beings. Nowadays information fusion is studied in many fields of science, as a way of exploiting information from multiple sources to achieve better outcomes in comparison to those obtained if any of theses sources were used separately (**??**).

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