TAREA 1 aksjlkdds Automatas Programables

G. Diaz-Arango

INAOE Electronics Department,
Puebla, Mexico
Email: {gerardo_diaz@inaoep.mx

***Abstract*—In this paper, ... Finally, a simulation ... is shown.**

Keywords: Homotopy continuation methods, Path Planning, Mobile robot, ROS.

I. Introduccion

In recent decades,... This paper is organized as follows. In Section **II**, ... In Section **IV**... Some simulations in Section **VI**. Finally, the conclusions are presented in Section **VII**.

II. Homotopic Continuation Method

Homotopy continuation method..

$$f(x) = 0: \quad \mathbb{R}^n \longrightarrow \mathbb{R}^n, \tag{1}$$

The system:

$$H(x, \lambda) = \lambda f(x) + (1 - \lambda)(f(x) - f(x_0)) = 0, \tag{2}$$

where, λ is the homotopy parameter, x_0 is the starting point, $H(x, \lambda) : \mathbb{R}^{n+1} \longrightarrow \mathbb{R}^n, \quad x \in \mathbb{R}^n$.

III. Obstacles

HPPM uses the...

IV. Spherical

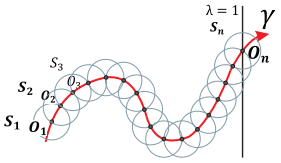

Figure 1: Seguimiento.

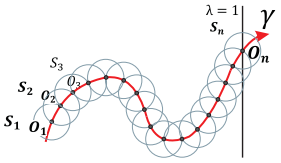

Figure 2: Seguimiento.

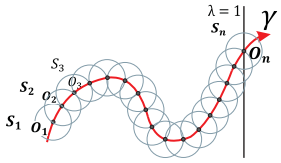

Figure 3: Seguimiento.

Predictor-Corrector Scheme

A proper [1] predictor-corrector Figure 3 scheme [2], [3]...

V. Experiments

The efficiency of the [4] proposed...

A. Successful path for maps with 200 and 2000 obstacles

We consider two study cases...

Environment maps								
N.Obstacles	200				2000			
Path	1	2	3	4	1	2	3	4
Steps	919	898	894	999	7165	6404	7406	6953
Time (ms)	504	483	504	564	41190	38840	48561	39305
Path length	2.10143	2.06822	2.01062	2.2497	2.59544	2.20463	2.57591	2.40284

Table I: Computation time and length in normalized units for two environment maps.

VI. Conclusions

In this work,...

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