

Proyecto de Investigación de cotizador automático por medio de ChatBots

D. Figueroa-Castañeda

Universidad Interamericana Maestría en Automatizac,
Puebla, Mexico
Email: {david_d.figueroa@lainter.edu.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..

$$V = I * R : \mathbb{R}^n \longrightarrow \mathbb{R}^n, \quad (1)$$

The system:

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

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

III. OBSTACLES

HPPM uses the...

IV. SPHERICAL

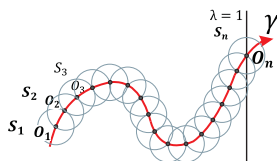


Figure 2: Seguimiento.

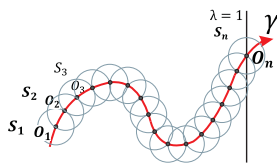


Figure 3: Seguimiento.

Figure 1: Imagen de prueba

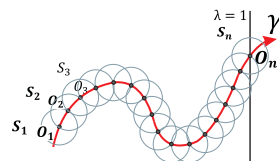


Figure 4: Seguimiento.

Predictor-Corrector Scheme

A proper [1] predictor-corrector Figure 4 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,...

REFERENCES

- [1] J. Bae, J. Song, S. Ra, D. Choi, and N. Hur, "A study on plc synchronization based on plc preamble correlation for docsis 3.1 downstream," in *2016 IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB)*, pp. 1–3, June 2016.
- [2] H. Vazquez-Leal, A. Marin-Hernandez, Y. Khan, A. Yildirim, U. Filobello-Nino, R. Castaneda-Sheissa, and V. Jimenez-Fernandez, "Exploring collision-free path planning by using homotopy continuation methods," *Applied Mathematics and Computation*, vol. 219, pp. 7514–7532, 2013.
- [3] G. Diaz-Arango, A. Sarmiento-Reyes, L. Hernandez-Martinez, H. Vazquez-Leal, D. Lopez-Hernandez, and A. Marin-Hernandez, "Path optimization for terrestrial robots using homotopy path planning method," in *Circuits and Systems (ISCAS), 2015 IEEE International Symposium on*, pp. 2824–2827, May 2015.
- [4] C. Park, Joon-Myung Kang, Mi-Jung Choi, James Won-Ki Hong, Yong-hun Lim, Seongho Ju, and Moon-suk Choi, "Definition of common plc mib and design of mib mapper for multi-vendor plc network management," in *2008 IEEE International Symposium on Power Line Communications and Its Applications*, pp. 152–157, April 2008.