



## Optimización estocástica de ganancia variable en sistemas de óptica adaptativa para comunicaciones ópticas atmosféricas

Jurado-Navas, Antonio

*Publication date:*  
2015

[Link back to DTU Orbit](#)

*Citation (APA):*

Jurado-Navas, A. (in press). *Optimización estocástica de ganancia variable en sistemas de óptica adaptativa para comunicaciones ópticas atmosféricas*. Abstract from XXX Symposium Nacional de la URSI, Pamplona, Spain.

---

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Optimización estocástica de ganancia variable en sistemas de óptica adaptativa para comunicaciones ópticas atmosféricas

**Abstract**—*In this work, the stochastic parallel gradient descent algorithm with adaptive loop gain is analyzed to optimize the convergence characteristics of blind correction adaptive optics systems in free space optical communications. As a result, two variable loop gain functions are proposed and a laboratory testbed consisting of a deformable mirror, a Shack-Hartmann wavefront sensor and control software is used to compare the different options. Experimental results show that an adaptive variable loop gain based on a negative exponential function achieves higher values for the metric used with fewer number of iterations.*