

# Dual system increases the resolution of a low coherence interferometer system through a signal detector astigmatic focus

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- Project: [Focus Error Signal](#)

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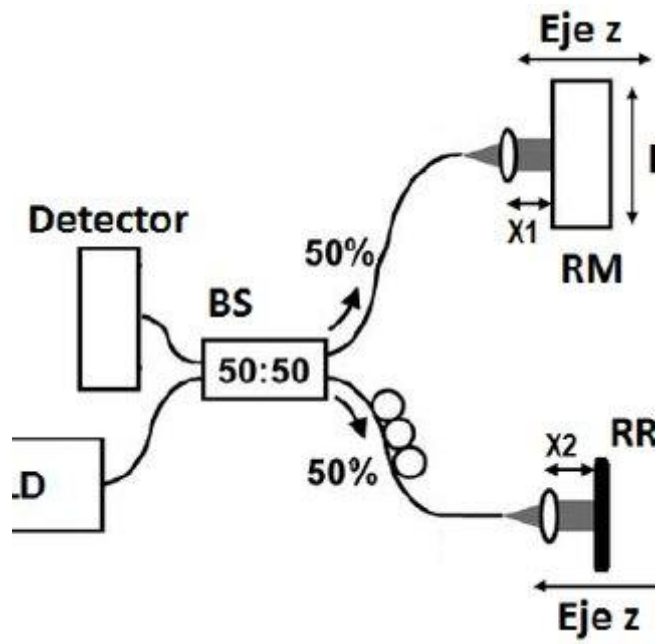
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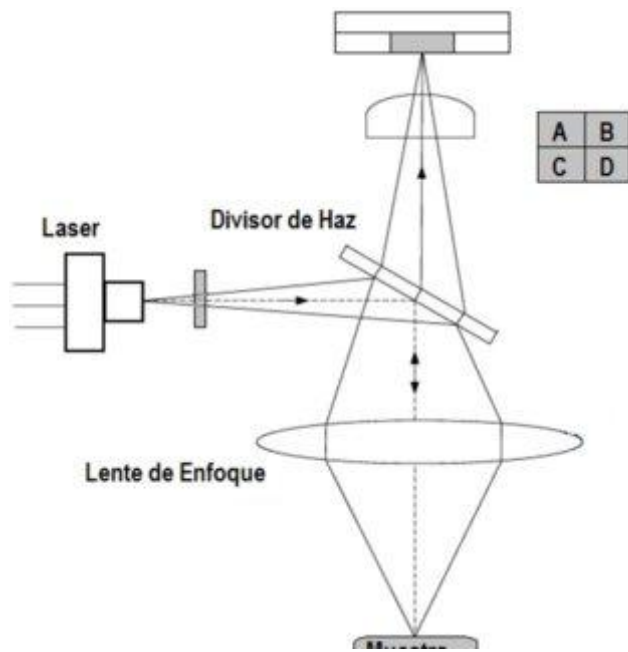
## Abstract and Figures

The low coherence interferometry in Fourier space (FD-OCT) is a technique to measure distance with typical values of dynamic range in the order of 3 mm and resolution below 10 microns. In this paper we propose to combine the interferometric technique with a technique that measures distances using astigmatic focus signal, allowing lead the resolution limit of less than 10 nm. The experimental scheme shown armed with both techniques and experimental results in displacement of a sample surface, controlled feedback system with a piezoelectric strain gauge which we have used as a reference system.



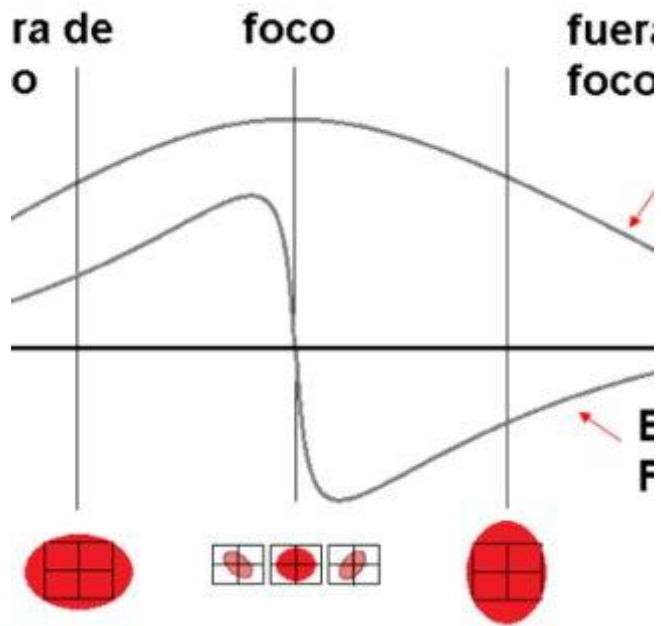
Sistema interferométrico en fibra, SLD es el diodo superluminiscente, BS es el divisor de haz 50/50, RM es la rama de muestra y RR la rama de referencia.

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Esquema simplificado del sistema astigmático.

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Señales error de foco y suma.

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