

## Review Paper

# The Use of Very Long Baseline Interferometry for Time and Frequency Metrology

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**Received:** 22 January 2012 **Accepted:** 24 February 2012 **Published online:** 17 April 2012

### Abstract

Historically, very long baseline interferometry became possible by the invention of atomic frequency standards more than 40 years ago. Since then, the reliable spatial reference frame has been constructed from numerous space geodetic observations and the construction of international atomic time is now relying on the spatial reference frame and space geodetic observations. The time and frequency difference between two places separated by a long distance can be precisely measured by using very long baseline interferometry, and therefore this technique is expected to have a potential to be used to compare and evaluate optical frequency standards. This paper tries to review the principle of the very long baseline interferometry and its use for time and frequency metrology.

### Keywords

Very long baseline interferometry – Unified space and time standards – Reference frames