

Free-Space Optical link for clock comparison

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The emerging generation of optical clocks holds great perspectives for fundamental physics and open up new fields of applications, such as chronometric geodesy. These clocks, reaching residual frequencies instabilities in the low 10^{-18} , require means of comparison in the optical frequency domain. Mainly optical fiber link can reach sufficient performance, but are the limiting factor for applications in need of reconfigurable, rapidly deployable or in space links. Our work aims to demonstrate a ground-to-ground stabilized free-space optical link via an airborne relay. We are currently working on a 600 m folded free space link, achieving stability of 10^{-18} after 20 s of integration. I will present our link design and results as well as development perspectives toward our end goal.

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