

step, we will show that an optical frequency can be disseminated at two places simultaneously with the same performance that obtained with RLSs [4]. We will also show how to combine Super-RLS, RLS and two-way techniques for a wide and versatile optical metrological network.

We will also present the latest experimental results we obtained over several months for the 1400-km long optical fiber link between Syrte and Université of Strasbourg. We improved the robustness of the link, which instability is in the 10-20 range at long-term. The reliability of this technology has also been demonstrated in the frame of the knowledge transfer achieved with SME, where most of the metrological network equipments are now commercially available.

References

- A. Bercy, O. Lopez, P.-E. Pottie, et A. Amy-Klein, "Ultrastable optical frequency dissemination on a multi-access fibre network", *Appl. Phys. B*, 122 : 189, 2016.
- A. Bercy et al, "Two-way optical frequency comparisons at 5×10^{-21} relative stability over 100-km telecommunication network fibers", *Phys. Rev. A*, vol. 90, p. 061802, 2014.
- W.-K. Lee et al, "Hybrid fiber links for accurate optical frequency comparison", *Appl. Phys. B*, 123 : 161, 2017.
- N. Chiodo et al., "Cascaded optical fiber link using the internet network for remote clocks comparison", *Opt. Express*, vol. 23, p. 33927-33937, 2015.