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## Defining Sources Selection and Celestial Reference Frame Stability

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In a previous study, we characterized radio sources observed by Very Long Baseline Interferometry by different criteria in both radio and optical domains (see the abstract “VLBI sources in optical and radio”). On the basis of the data derived from this study, we constructed several celestial reference frames by choosing a set of defining sources and studied their stability by two ways, statistically and temporally, inspired by Lambert [2013]. In parallel, a re-analysis of the ICRF2 was made, in the perspective of ICRF3 (expected date : 2018), to estimate its current stability and if it has changed since 2009, as it was the case for ICRF1 [ Gontier et al. 2001, Feissel-Vernier 2003, Lambert et al. 2008, Lambert & Gontier 2009 ] . Finally, an ambitious goal will be to develop by those works an automatic tool that will regularly analyse new VLBI observation sessions and will be able to alert the community on defining sources becoming potentially unstable.

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