Oct 2008-oct 2012

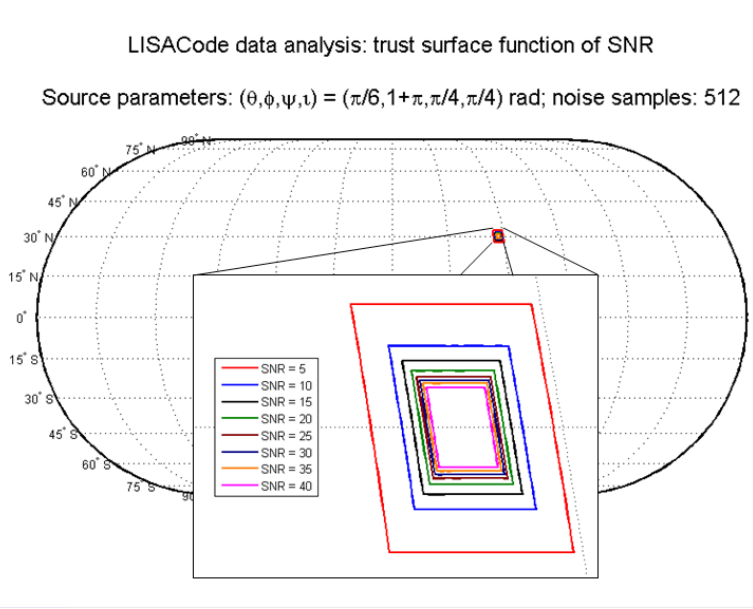
PhD : Modelling and algorithms for space interferometer LISA (ESA-NASA joined project)

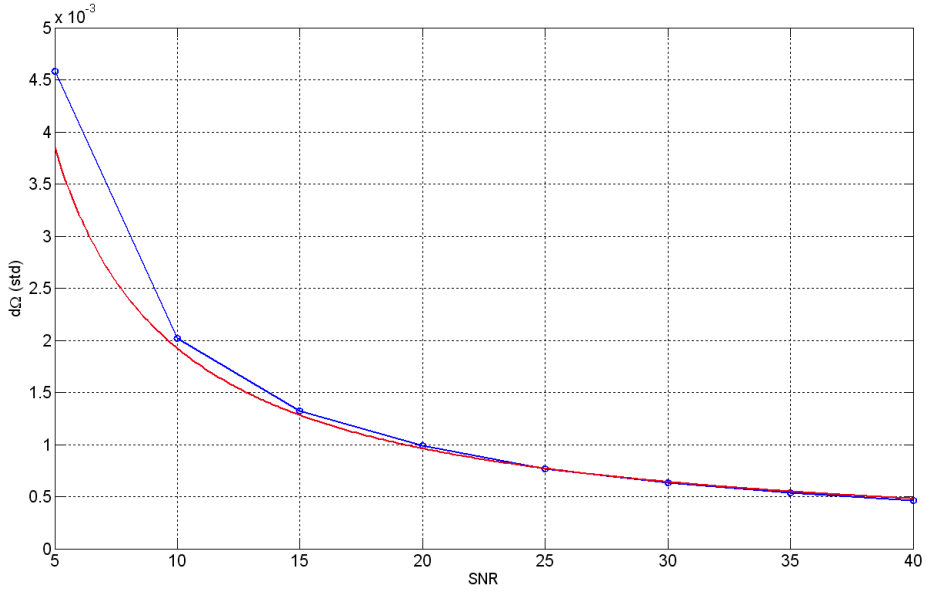
- **Full title :** LISA data analysis : an inverse problem method for galactic binaries parameters estimation

- **Links :** Abstract (EN) Résumé (FR) Poster résumé (FR)

- **Main achievments :**

  - Developped an original technique (heterodyne detection) for enveloppe extraction prior to a hierarchical step by step galactic binaries parameters estimation.
  - LISA directional functions second order development.
  - N-dimensional steady triangular grid / mesh algorithm for space parameter sampling.
  - LISA and gravitational wave modelling animations for science diffusion.





- **Collaborations and partnerships :**

  - Jean-Yves Vinet (ARTEMIS)
  - Antoine Petiteau (APC-Paris)

- **Programming langages :**

  - Matlab, C++, Python.

- **Conferences and posters :**

  - Estimation des paramètres des sources périodiques par détection hétérodyne, Journées LISA France 2009, 27/02/2009, IAP Paris.

  - ARTEMIS contribution in LISA data analysis, Journées LISA France 2009, 10/11/2009, CUM Nice.

  - Methods and results on galactic binaries parameters estimation with LISA, Journées LISA France 2011, 10/05/2011, IAP Paris.

  - LISA data analysis: a method for galactic binaries parameters estimation, 8th international LISA symposium, 27/06/2010, Stanford university, CA.

  - Ondes gravitationnelles: sources, manifestations, et détection, SACA (Société astrophysique de Cannes), 09/12/2009 et 10/11/2010, Cannes.

  - LISA data analysis : a method for galactic binaries parameters estimation, GRAM 2010, 29/11/2010, Nice.