

Where to find information and documentation on CLASS?

Author: Julien Lesgourgues

- **For what the code can actually compute:** all possible input parameters, all coded cosmological models, all functionalities, all observables, etc.: read the file `explanatory.ini` in the main CLASS directory: it is a reference file where we keep track of all possible input.
- **For the structure, style, and concrete aspects of the code:** this documentation; plus the slides of our CLASS lectures, for instance those from Tokyo 2014 available at
https://www.dropbox.com/sh/ma5muh76sggw8k/AAB1_DDUBEzAjjdywMjeTya2a?dl=0
in the folder `CLASS_Lecture_slides/`.
- **For the python wrapper of CLASS:** at the moment, the best is the slides from these lectures, for instance following the previous link and looking into
`CLASS_Lecture_slides/lecture7_wrapper.pdf`
and into
`IPython_Notebooks`
for example of python sessions. We will expand soon the documentation on this part with a dedicated webpage.
- **For the physics and equations used in the code:** mainly, the following papers:
 - *Cosmological perturbation theory in the synchronous and conformal Newtonian gauges*
C. P. Ma and E. Bertschinger.
`astro-ph/9506072`
10.1086/176550
Astrophys. J. **455**, 7 (1995)
 - *The Cosmic Linear Anisotropy Solving System (CLASS) II: Approximation schemes*
D. Blas, J. Lesgourgues and T. Tram.
`arXiv:1104.2933 [astro-ph.CO]`
10.1088/1475-7516/2011/07/034
JCAP **1107**, 034 (2011)

– *The Cosmic Linear Anisotropy Solving System (CLASS) IV: efficient implementation of non-cold relics*

J. Lesgourgues and T. Tram.

arXiv:1104.2935 [astro-ph.CO]

10.1088/1475-7516/2011/09/032

JCAP **1109**, 032 (2011)

– *Optimal polarisation equations in FLRW universes*

T. Tram and J. Lesgourgues.

arXiv:1305.3261 [astro-ph.CO]

10.1088/1475-7516/2013/10/002

JCAP **1310**, 002 (2013)

– *Fast and accurate CMB computations in non-flat FLRW universes*

J. Lesgourgues and T. Tram.

arXiv:1312.2697 [astro-ph.CO]

10.1088/1475-7516/2014/09/032

JCAP **1409**, no. 09, 032 (2014)

– *The CLASSgal code for Relativistic Cosmological Large Scale Structure*

E. Di Dio, F. Montanari, J. Lesgourgues and R. Durrer.

arXiv:1307.1459 [astro-ph.CO]

10.1088/1475-7516/2013/11/044

JCAP **1311**, 044 (2013)