



# NagBody lectures: Macros and options

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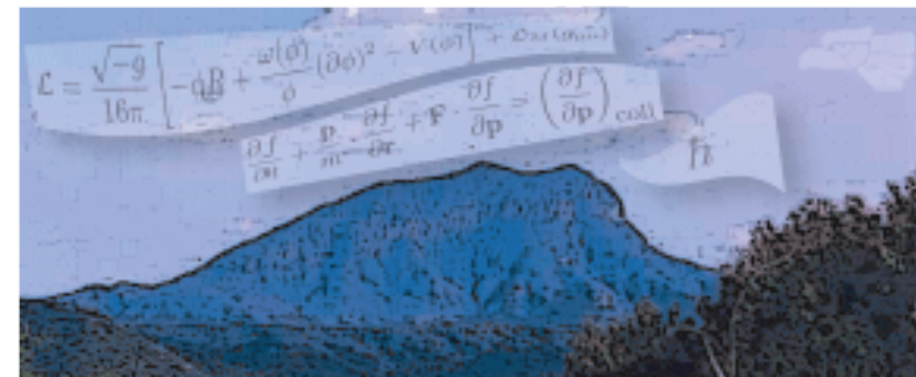
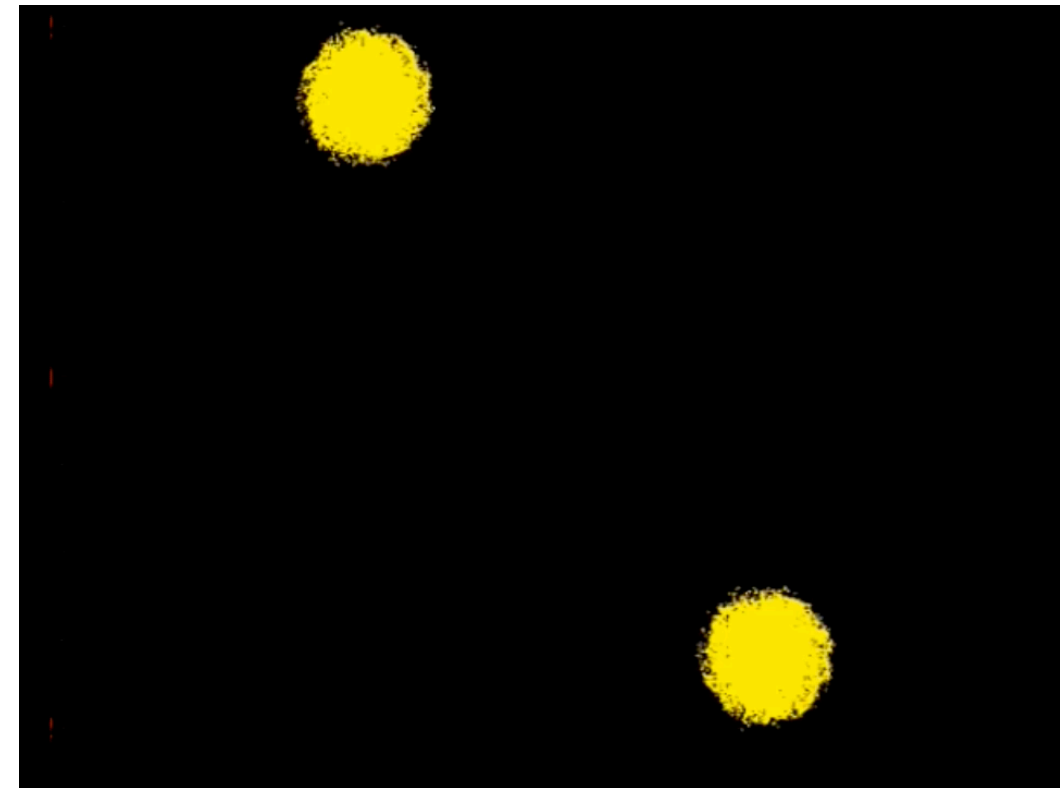
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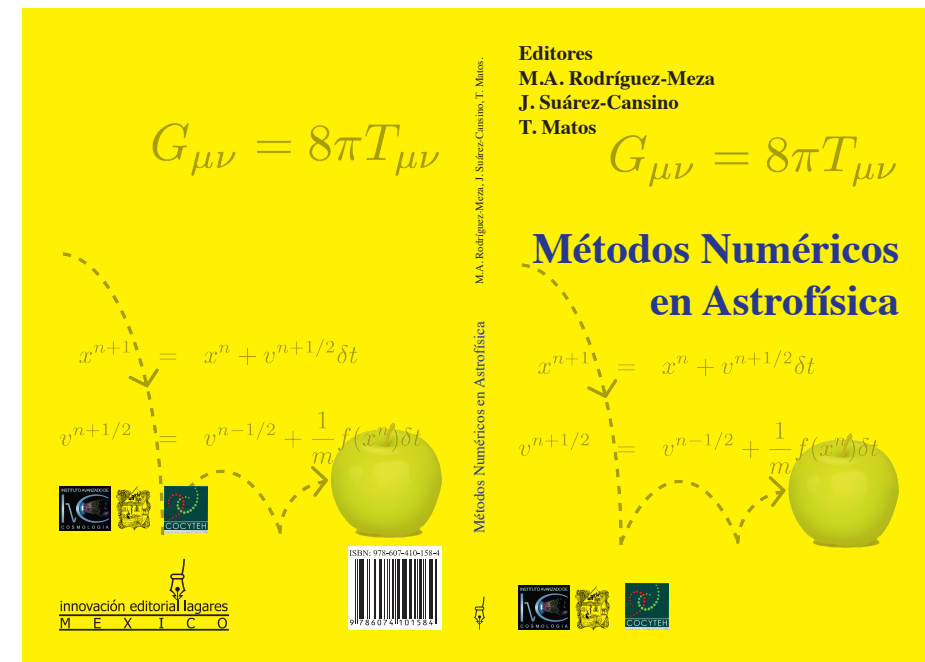
Seminario de investigación,  
Departamento de Física,  
Universidad de Guanajuato  
3 de febrero al XX de junio de 2022  
Sesiones virtuales (Zoom, Meet, etcétera)

*quintessence*  
Group



# References and material

- Cosmología numérica y estadística: NagBody kit (<http://bitbucket.org/rodriguezmeza>). Mario A. Rodríguez-Meza. And: [https://github.com/rodriguezmeza/NagBody\\_pkg.git](https://github.com/rodriguezmeza/NagBody_pkg.git)
- Métodos numéricos en astrofísica, capítulo I, Método de N-cuerpos en astrofísica. ([https://www.researchgate.net/publication/316582859\\_Metodo\\_de\\_N-Cuerpos\\_en\\_Astrofisica](https://www.researchgate.net/publication/316582859_Metodo_de_N-Cuerpos_en_Astrofisica))
- La estructura a gran escala del universo. Capítulo 22 en Travesuras cosmológicas de Einstein et al. [https://www.researchgate.net/publication/316582400\\_La\\_estructura\\_a\\_gran\\_escala\\_del\\_universo\\_simulaciones\\_numericas](https://www.researchgate.net/publication/316582400_La_estructura_a_gran_escala_del_universo_simulaciones_numericas)
- [https://www.researchgate.net/profile/Mario\\_Rodriguez-Meza](https://www.researchgate.net/profile/Mario_Rodriguez-Meza)
- [https://www.researchgate.net/publication/314281416\\_Los\\_agujeros\\_negros\\_y\\_las\\_ondas\\_del\\_Dr\\_Einstein](https://www.researchgate.net/publication/314281416_Los_agujeros_negros_y_las_ondas_del_Dr_Einstein)
- M.A. Rodríguez-Meza, Adv. Astron. 2012, 509682 (2012). arXiv: 1112.5201. ([https://www.researchgate.net/publication/51967093\\_A\\_Scalar\\_Field\\_Dark\\_Matter\\_Model\\_and\\_Its\\_Role\\_in\\_the\\_Large-Scale\\_Structure\\_Formation\\_in\\_the\\_Universe](https://www.researchgate.net/publication/51967093_A_Scalar_Field_Dark_Matter_Model_and_Its_Role_in_the_Large-Scale_Structure_Formation_in_the_Universe))



# Content:

## Macros and options

- Concept of macro
- Good programming design using options



# Content:

## Macros and options

- Concept of macro: see analysis\_md and md\_blj\_n2 use of NDIM.
- Concept of macro: see lpicola and mgpicola Makefile files, use of -DOPTION
- Good programming design using options: see model and use of options=512 to write file in format powmes.



# Conclusions:

## Macros and options

We have seen:

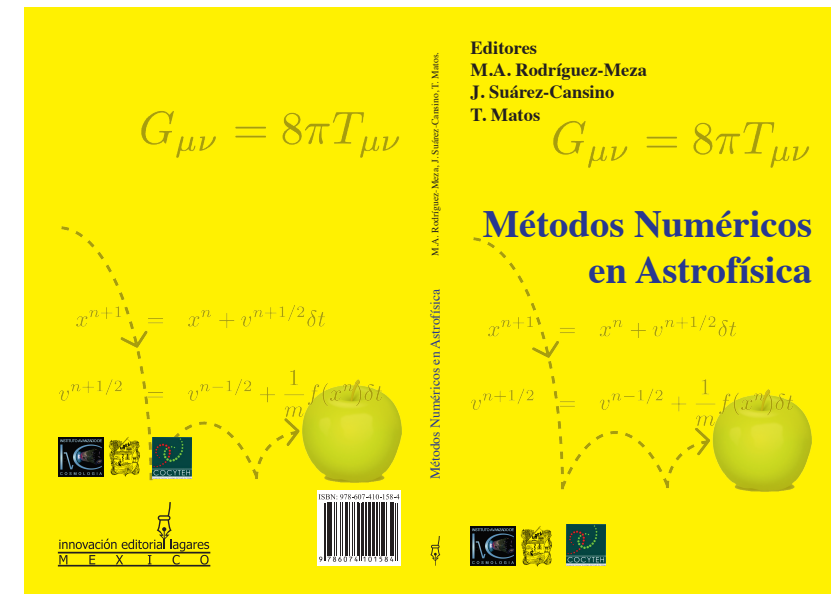
- Concept of macro and how to use it: `md_blj_n2` and `analysis_md`
- Options. Add flexibility to the code.





# References and material

- Cosmología numérica y estadística: NagBody kit (<http://bitbucket.org/rodriguezmeza>). Mario A. Rodríguez-Meza. And: [https://github.com/rodriguezmeza/NagBody\\_pkg.git](https://github.com/rodriguezmeza/NagBody_pkg.git)
- Métodos numéricos en astrofísica, capítulo I, Método de N-cuerpos en astrofísica. ([https://www.researchgate.net/publication/316582859\\_Metodo\\_de\\_N-Cuerpos\\_en\\_Astrofisica](https://www.researchgate.net/publication/316582859_Metodo_de_N-Cuerpos_en_Astrofisica))
- La estructura a gran escala del universo. Capítulo 22 en Travesuras cosmológicas de Einstein et al. [https://www.researchgate.net/publication/316582400\\_La\\_estructura\\_a\\_gran\\_escala\\_del\\_universo\\_simulaciones\\_numericas](https://www.researchgate.net/publication/316582400_La_estructura_a_gran_escala_del_universo_simulaciones_numericas)
- [https://www.researchgate.net/profile/Mario\\_Rodriguez-Meza](https://www.researchgate.net/profile/Mario_Rodriguez-Meza)
- [https://www.researchgate.net/publication/314281416\\_Los\\_agujeros\\_negros\\_y\\_las\\_ondas\\_del\\_Dr\\_Einstein](https://www.researchgate.net/publication/314281416_Los_agujeros_negros_y_las_ondas_del_Dr_Einstein)
- M.A. Rodríguez-Meza, Adv. Astron. 2012, 509682 (2012). arXiv: 1112.5201. ([https://www.researchgate.net/publication/51967093\\_A\\_Scalar\\_Field\\_Dark\\_Matter\\_Model\\_and\\_Its\\_Role\\_in\\_the\\_Large-Scale\\_Structure\\_Formation\\_in\\_the\\_Universe](https://www.researchgate.net/publication/51967093_A_Scalar_Field_Dark_Matter_Model_and_Its_Role_in_the_Large-Scale_Structure_Formation_in_the_Universe))



See you!

